ROPU[illegible]OOL BOOKS.

SMITH'S NEW [illegible]ammar on the PRODUCTIVE SYSTEM;

PRAC[illegible]MENTAL A[illegible]IC, on a New Plan [illegible]

use of

Lectures on Surgery by Dr. Mütter

Definition of Inflammation. Inflammation = that condition of parts involving Undue Heat - Redness - Pain - Alteration or Suspension of Secretions - Swelling - Throbbing -

Organized tissues more liable to Inflam. Cartilages, according to Müller, may be inflamed, but is a moot point - Certain tissues as Hair - Enamel - Nails present appearances of Inflam. but it lies in their follicles - Reptiles are said to be exempt from inflam - Eg. Frogs - snakes.

Acute and Chronic go on steadily in their course - Latent not developed of itself, but by some foreign cause viz. Tubercule of lungs may exist, but not developed but by a severe cold.

Healthy - Unhealthy and Specific -

Specific = Introduction of Virus into the System, as that of infected cows = Treated with free incision, cauterization and poultice -

Cases cited; are the absence of redness in Arachnitis and Inflam. of Cornea -

Skin and mucus membrane very red in Inf. Redness is a good sign in Erysipelas -

Yellow generally due to Syphilis

3 Zones well defined indicate that inflam. is ceasing -

Pain not always present. Modified by the tissue. A heavy dull pain in Cellular. Serous has sharp, lancinating pains, called Stitches - Fibrous is first dull heavy, then pulsatile. Sharp, burning pain indicates Erysipelas - Dull aching pain, increased on going to bed shows Disease of bone - a gnawing pain in indolent tumours shows it is malignant. Pain does not always indicate the diseased portion; as pain in glans penis indicates Stone in Bladder

2 least Organized tissues suffer most pain- as bone. Cartilage-
Diff. between Spasmodic and Infl. pain- Pressure relieves Spasmodic. Increase In- flammatory pain - Inflam. causes increase of pulse, and fever. Spasm. the reverse - Velpeau - Dr. Dudley good authorities - Cause of Inflam and pain due to 2 Spe- cific causes
1st Imprecision of nerve -
2d Afflux of blood to the parts, by which its organic structure is increased -
Heat. Temp. never rises above that of the blood at the heart. 98°. But there is aug- mentation of heat as far as part is con- cerned - Exceptions. The womb after par- turition is 108° or 110°. - Erysipelas. we must check the heat by antiphlogistic Remedies. Heat not caused by friction. viz. rapidity of blood, because blood is stationary & stagnated but caused by rapid Oxidation of the tissues by the presence of so much blood -
Swelling - Not an Essential characteristic of Inflam. Cellular tissue swells - Cause of swelling, due to distention of blood vessels - Sepa- ration of these vessels by Serum - Extravasa- tion of the vessels - Lymph - Obstruction in ab- sorption of parts -
Throbbing. Effort of vessels to overcome obstruc- tion -
Sympathy 2 kinds. Partial. Universal
Partial { Remote / Continuous / Contiguous | Remote. Eg. Mumps leaves Parotid glands for testes -
Continuous = the Lesion attacking the same tissue - Contiguous = from just a position - in contact with organ of disease -
Universal = a general reaction of nervous or vascular systems. by some local injury -
Theory of Inflam. depends on the precise condition which take place in inflam. part.
2 Great Theories. Hunters doctrine = The Essence of Inflam. consists in the augmen-

fed action of capillary blood vessels-
2nd " Vacca's theory. Instead of augmentation the vessels too weak to carry on their function. Müller believes in combination of both theories. Eg. White spot around a frost sting, due to contraction of capillaries forcing out blood - It soon becomes red, because weakened by excessive action, the capillaries yield and dilate - Then, blood moves sluggishly, with adhesion of white globules to the walls of vessels. Afterwards Extravasation and Stagnation ensue-followed if neglected by effusion of Serum, Lymph Etc -

Blood from Inflam. covered with a Buffy Coat, varying with the intensity of Inflam - due perhaps, to its coagulating slowly, which increases fibrin and white globules rise to surface.

Inflam. terminates in Resolution, Delitescence, Metastasis.

Resolution = Restoration to health -
Delitescence = Sudden departure of Inflam.
Metastasis = change in location of Infl. as Gout

Constitutional and Local -
Plethora = Excess of blood. Venous plethora belongs to the old causing effusion of Serum Arterial plethora belongs to young, has effusion of plasma or lymph.
Local determination = A sudden rush of blood -

Treatment of Inflammation -
1st " Remove the cause - Exception. gunshot -
2nd " Attend to Nervous and Vascular condition of patient - After Operations administer Tartarised Antimony with Morphia - Use diet - ice - cooling drinks - Give wine of Opium, or Digitalis - Take away blood generally or locally about 10 Oz. at a time

Bleeding in External Jugular vein -
Place patient in semi recumbent posture; make a trough of paper to catch blood. Place the thumb just below the place you intend to pierce - rest the vein firmly on Sterno-mastoid Mus

(4.) Bleed above your thumb; Cut Longitudinally never take off thumb until you have placed your finger on the opening: as air may enter the vein and destroy the patient. Place a piece of sticking plaster over orifice & tie a light bandage. When air has entered the vein, indicated by a hiss, and prostration of patient, immediately insert Syringe in orifice and suck up vigorously the air.

Venesection: done with spring lancet transversely to the direction of vein. Apply a ligature above, not so tight as to prevent the pulsation of the artery in the wrist. never bleed a vein when you perceive pulsations of an artery near or under it.

Thrombus = the vein rolls under the skin. blood collects under the skin, which swells.

Treatment. Bandage from wrist up, then place a compress bandage in the fig. 8 manner, drop it 2 a day and apply Camphurated Spir. Tincture of ~~XX~~ Iodine. When violent inflam. set in open the clot of blood.

Frequently when bleeding in the bend of the arm the blood will suddenly stop: place the patient in horizontal position and it will flow. a globule of fat will sometimes close the orifice push it aside with a probe.

Rarely bleed the Basilics, for you may sever a nerve. If you do cut through a nerve the patient will complain of great pain, and paralysis of fingers. Immediately stop the flow of blood, bandage arm from wrist and flex the fore arm on the elbow so that the nerves may reunite. put arm in splint.

If you pierce an artery, take what blood you desire without alarming the patient, then bandage from wrist up - placing a graduated compress beginning with a 5 cent piece. and apply the figure 8 bandage.

Phlebitis = Two days after bleeding - there is pain in puncture and axiller - arm is swollen. Apply warm fomentations, viz a bit of lint dipt in warm water and covered with oiled silk. Blister arm around and around

administer Antiphlogistic remedies- Digi-talis- cool drinks- Purges. Do not bleed the other arm as it is liable to the same disorder from Sympathy.

Four or 5 days after bleeding, Patient feels faint- tongue furred- arm feels tender, with red streaks- aperture of puncture open with a drop of transparent lymph. You have cut through a large Lymphatic vessel- Treat as in Phlebitis.

To bleed Saphena Vein. Immerse the foot in warm water 15 minutes; cut longitudinally Place foot again in water and let it bleed.

To bleed the Anterior branch of the Temporal Superior artery, the only artery to be bled- Cut the skin to one side of the ~~vein~~ artery, Carry the blade under the skin, & cut the artery across. then bring the Puncture in the Skin directly over the wound of the artery. To stop the bleeding sever the artery, and apply graduated compress-

Local Bleeding= Scarification, Cupping Leeches. Do not begin Local bleeding at the commencement of inflammatory attack. Bleed Enough to counteract the Irritation of the wounds. Scarify when swelling of Leech bites would incommode. 3 Kinds of Leeches. Swedish German. American. Two first the best. Dont apply them to a child. Two stop hemmorrhage of Leech bites. 1st Cauterize the bites with a red hot Knitting needle. guarded by a cork. 2nd Pass a threaded cambric needle through base of the bite. and wind the thread around the base.

To Reduce Sensibility without bleeding- Ice- Irrigation- Immersion * Ice dangerous to use as it freezes the parts. Cold water to be applied until inflam. ceases. Irrigation produced by rolls of cloth acting like Syphons on a basin of water and percolating on the limb. Cold applications to be made generally on Extremities. When Cold

6) applications cause a chill, discontinue them, & make use of warm fomentations. As Tetanus may ensue.
Counter Irritations useless in Acute Inflammation.
Issues – Seatons – Moxas. limited to Chronic.
Issues = Peas – Beans – Pills of Orris Root. Plaid over a raw surface and covered with adhesive Plaster –
Seaton, produced by passing a tape Ribbon through the folds of the Skin, and tying loosely – Must be worked back and forwards once in Twenty four hours, to be renewed every few days, as the tape becomes offensive.
Moxa = Cylinders of Punk, Pith of Sunflower – Etc. burnt. (through an orifice in wet cloth) on patients skin.

Products of Inflammation
No. II.

Serous Effusion. = (ties
Dropsy = Effusion of Serum in Sacks or Cavi –
Oedema = Effusion of Serum in Cellular tissue
(2) Paracentesis Oculi = Puncture the distended pupil not in centre, but at the base; for the puncture makes a white opaque spot, which would disturb vision. Apply cold water with lint.
(3) Tracheotomy. Place patient in semirecumbant posture – head thrown back. Pinch the skin up, at the top of the Stomach? Pass Knife through the base. You then come to Superficial fascia which you pinch up and cut through in a similar manner. Now have exposed the Sterno Hyoid & Sterno Thyroid muscles, separate these with handle of Scalpel. Then either pinch aside the Inferior Thyroid Plexus, or else tie first & then cut. Pass up the Trachea until you come to the Isthmus of Thyroid gland, just beside, or else tie both ends and cut. Avoid if possible the Artery of Neubauer – Pinch up the Cellular tissue that covers the Larynx, and cut away pinch directly over the place in the Trachea you intend to Open. Keep the edge of knife upwards, bid patient to swallow, in the act of swallowing cut 2 3 t. rings of trachea. If patient cannot swallow seize the trachea with tenaculum and open it. Not however until you have wiped the anterior wounds dry, as the blood might descend into the Lungs. You can insert a Canula to keep the wound open. Temp. of room, to prevent Inflammation should not be less than 80°. Fht.
Subsequent Inconveniance. In the healing up of the wound, granulations sometimes are formed in mucous membrane. To be reopened, and granulations taken away with a forceps –
An indolent fistula allowing passage of air.

occurs. Cured by scraping surface of wound with Knife and sides with Caustic, and covering with a flap of skin. Or else with a Cyclende of skin placed in opening, and secured with a Pin.

Chrobtomy Tracheotomy = division of Chrobsid Cartilage Laryngotomy = The division of Thyroid Cartilage in two halves. Objections to this Operation = 1st Rendering functions of Throat weak. 2nd Danger of severing the Corda Vocalis which would render patient dumb. Sub Hyoid Tracheotomy = Transverse Cut between the base of the Os Hyoides and Thyroid Cartilage.

(4) Paracentesis Coli. Open Sack or Sacks; allow contents to escape, and place a Seaton.

(5) Paracentesis Thoracis. In pleurisy when sudden and enormous deposition of water occurs. Puncture On Right side between 7th & 8th. 8th = 9th Ribs On the Left side between 8th & 9th 9th & 10th Ribs. Keep close to the upper ridge of lower rib to avoid the intercostal artery which lies along the lower ridge of the upper Rib. Prick the Pleura and allow the fluid to escape, compressing the patient with many tailed bandage. Close up the wound immediately after it ceases to flow, to prevent the entrance of air. Should draw off Urine and purge (if time allowed) in this and succeeding operation.

(6) Paracentesis Abdominis. Pierce mid way between the Umbilicus and Symphisis Pubes with a trochar; and keep drawing the many tailed bandage tighter.

(7) Paracentesis Scroti. Pancoast's method. Introduce the trochar, drain the fluid, and inject a strong solution of Tinc. of Iodine, drawing it and injecting until the patient feels a pain along the groin in the Scrotal nerve. This is to create a counter inflammation and prevent the return of the dropsy; the bag will be full in a few days, then to be opened again.

(8) Paracentesis Articuli. Do not if possible perform this operation; open only at the most fluctuating point. Never inject the joint.

(9) Puncture of the Skin in Oedema & Anasarca. Make 2 or 3 punctures. Never scarify as it renders the wounds liable to Erysipelatous inflammation. Apply compression by means of bandages.

No. 2. Effusion of Coag. Lymph.

1. By Effusion of Coagulable Lymph. We mean Liquor Sanguinis or Plasma.
2. Is the result of acute Inflammation.
3. a short time after Inflammation begins it is creamy. easily scraped off a wound with handle of scalpel. In 24-48 hours grows hard so as to resist mild effort to for its removal. It becomes a healing means.
6. It becomes a homogenous mass; then fibrination with nuclei ensues - then cells. If any interference takes place, cells fall down and become mere pus cells.

3 kinds of Plasma 1. Fibrinous 2. Corpuscles 3. mixed.

No. 9 Suppuration.

Suppuration = That action dependant on Inflammation and characterised by a separation of Pus from blood

Symptoms. Constitutional are Modification of Pulse, quick with less force. Skin soft, sweaty, cold, clammy.

Local = Change in Pain; becomes pulsatile throbbing in a previously inflamed surface. affected gland becomes cool soft, fluctuating. Color becomes livid.

Pus is composed of Serum, in which float globules and molecules which are dead Exudation corpuscles viz. dead Plasma.

It has all the chemical Elements of blood with the exception of coloring matter and the addition of Pyine -

To the microscope it presents globules with an investing membrane (containing small nuclei) these burst and allow the escape of the nuclei when treated with Acetic acid. It is thus distinguished from Tubercle globules which become transparent under the action of Acetic Acid. No other fluid present these characteristics of the Pus, hence Easily known -

Pus keeps sweet in hermetically sealed bottles, for days and months.

Healthy or Laudable Pus is Yellow, faint odour. creamy, sweet. Specific Gravity is heavier than water -

Unhealthy Pus. (1) Ichorous Pus. shows constitution below par. is watery, requires stimulants and tonics.

(4) Curdy Pus indicates Scrofulous tendency in patient—

(5) Slimy or Ropy pus indicates intense inflammatory action as in the faeces of Dysentery

Sanguineous with strong foetor indicates mortification—

Greenish pus, a Specific disease, generally Venereal: as in the Gonorrhoea. Venereal Opthalmia—

Grey which becomes brown and dark on being stirred is Sordes (?) and is the result of sloughing ulcers.

Watery Pus. Separating in two parts and indicates the System wasted by Chronics—

Healthy pus never irritates the inflammation and therefore should not be officious by removed as it is even an excellent dressing.

Prognosis. Suppuration is unhealthy and should not be neglected: as a drop may ruin the eyesight. a teaspoonfull produce congestion of the brain—

Keep a Superficial abscess at bay by lint and water, and some stimulating wash to absorb it: where a suppuration, or recourse to the Knife would disfigure.

Pus can be absorbed therefore is not a Secretion as Hunter terms it.

As soon as Suppuration begins, cease antiphlogistic remedies, apply warm and stimulating applications. blisters Tinc. of Iodine, warm Poultices. change general treatment, in lieu of Tartarised Antimony, Cod liver Oil &c. give Quinia tonics, good healthy diet. a little Opium if patient is restless.

No. 10. Ulceration.

Hunter says it is "Inflammation characterised by loss of tissues" not true as in Malignant Ulceration, tissue accumulates, and are built up.

Ulceration due to Softening of the tissue and does not depend on Absorption—

Granulation—

Basis = Plasma; Small red pyramidal, temperature inclining to heat, higher than the rest of the body—

Suppuration of Mucous & Serous cavities have no granulation

[10] Cicatrization

Cicatrix is never of the same tissue as the parts which it unites. Called the inodular tissue.

(1) To prevent a scar, and have a smooth pliant cicatrix. Paint the wound with Collodion — cover it with lint smeared in blood — with adhesive plaster. That is keep out the action of atmosphere.

(2) The "modelling process of M'Cartney" by which the surface is smooth and the cicatrix a mere line keep the part moist with water — use vapor bath.

(4) The skin in burns is shrivelled, the cellular tissue crisped.

(5) Ulcer healing in mucous membrane give a pit for cicatrix. Skin and other tissue generally elevated.

Structure of a Cicatrix. Tissue sui generis. 1st Layer composed of thin pellicles. 2nd layer is laminated basis with no hair bulbs, no oil follicles — few nerves and blood vessels — no Rete Mucosum. If the subcutaneous Cellular tissue is not destroyed, it is contracted and thrown into ridges.

Force of Contraction. Lower jaws brought down upon the Sternum — wrists dislocated — This force in its commencement to be contended with by mechanical means.

Circumstances which prevent Cicatrization. Motion, Atmosphere, Too low Temperature — Too high ditto Power of Resisting disease. In cutaneous eruptions as Scurvy, Old scars are attacked first. Hence Sailors and Soldiers with large scars are the first to be prostrated.

Dupuytren's Classification. 1st Narrow Cicatrix — 2nd Prominent 3rd Extensive Adhesions. 4th Obliterating cavaties 5th Organs involved has disappeared.

Prognosis. (2) Age. for Plastic Operations, 3. 6. 12 months after accident before operation. the older the better. (6) Vascularity. Never cut into a vascular red cicatrix. as it may be difficult to stop the hemorrhage. Apply cold water. astringent washes until the redness disappears. (8th) (The health of the patient) Never perform a plastic operation on Rheumatic, Scrofulous, Syphilitic patient. as the wound is liable to slough — and healing by the first intention (not granulation) is the prime object to be successful in plastic operations.

Dieffenbachi operation for the contrac-

tion of Natural Openings, depends on the fact that mucus surfaces in contact do not unite. he dissects the skin & mucous tissues till he comes to the mucous surface, this he covers the edges of the wound with it.

No 11 Mortification

Comprehends Gangrene and Sphacelus.
Gangrene is the commencement of Mortification
Sphacelus is complete death.
Gangrene is not entirely dead as regards the part and you may perhaps save it, as circulation heat, sensibility are all present but on a small scale.
Sloughing comences with a red line, a gutter between the gangrenous and healthy parts, called the Red Line of Demarcation.
We should never operate on a patient, if an Epidemic Gangrene prevails, and if patients tongue is furred, and irregularity of digestive functions. We must cure all these symptoms, before operating, as Erysepelatous inflammation is liable to set in, followed by gangrene.
When Nature proceeds to amputate by sloughing the reason that haemorrhage does not ensue is due to the Plasma, which coagulates and thus blocks up the mouths of vessels and arteries.
Time for Mortif. to develop itself varies from circumstances. (3) The instantaneous Mortification, is illustrated by the White Gangrene, caused probably by persons so lying on their limbs as to arrest circulation; the patient wakes up and detect insensible white patches, which will slough.
Symptoms of Gangrene. The (1st) indication of Gangrene of a vital organ (such as brain, liver, stomach intestines) is Aberration of Mind. 2nd The Pulse, which has been strong, corded, becomes irregular, soft, gaseous feeling as if wind was within hurried heart upon auscultation, caps tumultuous. 3rd The Skin which has before been dry and hot, becomes cold, clammy, the tongue is coated with a white fur, and, upon running it out, trembles and quivers like a serpents, the hands if lifted up quiver. 4th The part itself becomes livid, pulse of the part not visible, sensibility in a great measure absent, except in Chronic Gangrene when the pain is intense.
Symptoms of Sphacelus. The color changes from lividity to a black, part affected is dry, soft, no pain, no sensibility; tongue dry and chippy—

small, steady, quick pulse — hiccup.
Bullae or white blisters appear all over the mortified portion. (N.B. In fractured limbs these Bullae frequently appear; but are then no indication of mortification and should not alarm the patient).
The Red Line of Demarcation, is a Zone which appears, blisters appear on the affected side of the Zone, open, discharge, and form a groove.
Highly organised tissue more prone to Gangrene as frequently we see the tendons and muscles sound when all adjacent tissues are destroyed.
Constricted tissues, such as those in the palm, in the foot, in Strangulated hernia take on inflamation very soon, pour the fluid infiltrating and crowded under the fascia; we must open the fascia soon as mortification sets in even in 12 hours.
Mere color, without a change in heat or condition of the patient does not indicate mortification, as frequently Thrombus, Compound Fractures, Bruises, are thus mistaken for Mortification.
If the Cause of Gangrene is due to Inflammation, especially in Venereal diseases the prognosis is favorable: take blood locally or generally, scarify, leech, bleed boldly. (open all the blood vessels you conveniently can in Gangrene of Penis) use antiphlogistic remedies, Spirits and water; in short anything that evaporates freely.
(A man will come to you with a small abscess in his palm; now the fluid will infiltrate under a constricted tissue and mortification will ensue; hence open the palm freely, cut every way, let it bleed freely if you sever and artery take up the radial, Ulna artery or Forced flexion of the forearm on the arm will stop the haemmorrhage.)
Gangrene due to Intense Cold or Frost-bite. When while frozen, flaming red when thawed out. Rub with snow in a cold room, when the color begins to return apply the coldest applications. If however pain and swelling occur leech, bleed, the part. The great object being to keep the blood out of the member.
If the patient has a fever, apply cold to the parts adjacent to any Gangrene: If weak apply blisters above; as around the arm when the hand is attacked
To Stimulate the patient, give tonics of Bark or Quinine. Opiums for pain. Essence of meat in soups for diet.
To correct the foetor. Ashes made of the Yeast from the state of Maine is the best. Sprinkle the Cotton wadding with Creosote &c —

Amputation should never be done in Constitutional Gangrene, until the appearance of the Line of demarkation; In amputating you may either cut through granulations or below them. Do not wait for the Line of Demarcation; in mortification resulting from Injuries, but amputate as soon as Mortification sets in—

Chronic Mortification

High Livers liable.
Symptoms. Burning pains in extremities. (say in the toes) lasting weeks and months, followed by little blue blotch, then by a blister, then ulceration with the most intense agony
Stimulate in the first stage. Soothe afterwards That is apply blisters on Each toe separately. If Gangrene ensues apply soothing remedies, give large doses of opium; Joint after Joint will drop off, but do not amputate—

Hospital Gangrene

Causes = Air when Epidemic. = Nurses when stale bandages are used. = The patient himself when his health induces the disease.
Treatment. Lay bare the wound, wipe it very dry; apply lint with concentrated Nitric Acid until an Eschar is made 1/4 inch in depth. Apply something to neutralize the Effect of the acid, and dress the wound. This is frightfully painful and Ether should be used.

Wounds

Cooper's definition liable to objection; because bones are wounded; and frequently a bonebreaker will make a wound and protrude through it.
A Simple Wound = That solution of continuity made by a sharp instrument in a sound healthy tissue, involving no important organs—
Complicated. the Reverse.
The vitality of an organ modifies the danger. A wound in a joint, injuring the cartilage, which is not a Light organized tissue, is very difficult to cure—
(2) Tetanus. Developed usually in the first 12 hours. If this crisis is passed in safety the patient is not liable to Tetanus until days have elapsed.
(3rd) Traumatic Fever = A Sympathetic Fever inducing a Local determination to the head, Liver, Kidneys. Etc.
(4) Erysipelatous Inflammation. Occurs very frequently in Small wounds about the head, and especially on the scalp.

14/(7) Metastatic Abscess never occur until after Suppuration is fully set in. Symptoms of its commencement. The wound before moist is now dry, pain occurs in the right side Coma sets in. The case is almost hopeless. Cause of Metastatic Abscs. Say a limb is amputated, a Sympathy of continuity effects the brain, kidney, liver Etc. followed by a subacute Inflammation. Now according to the Aphorism of Esculapius "Two Inflammations cannot exist in the same person, for the greater will swallow up the lesser." Hence the Inflam. of the vital organ becoming greater than that of the Stump, the Inflammation is transfered from the latter to the former. Pus is rapidly formed and death ensues.

Treatment of Metastatic Abscs. Stimulents applied without loss of time to the wound to renew the Inflammation. Blood taken locally from the seat of the transference. Tart. Antimony Stimulents taken internally. Etc. Etc.

Process of Healing. 4 Methods.

1st Immediate Union. As in a small cut the nerves unite to nerves, veins to veins Etc without the interference of Plasma.

2nd Mediate Union by Lymph or Blood.

Or Union by the 1st Intention of Mr. Hunter. Blood clots of small size, according to Modern Pathologists, are organised, and, like Plasma, are bonds of Union.

3rd Union by the Modelling Process. Bond of Union by which clefts, pits, are restored by the deposition of layer after layer of Plasma; Through the agency of moisture, and action of vapor.

4th Mediate by Granulation, or by the Second intention Of Mr. Hunter.

N.B. Hunter's Adhesive Inflammation can never occur. For according to McCartney, Wounds cannot unite by the 1st Intention by Inflammation, but by simple Excitement, Irritation, Sanguineous Irritation. 5th Growth. External wounds heal by nucleated cells, internal or subaponeurotic by nucleated blastema.

The first and Second methods of Healing should ever be adopted when practicable as we save time, pain, health of the patient and procure a strong and slightly deformed cicatrix. French authors object that it is apt to promote Tetanus, and

that the pus evolved during granulation is useful for the patient. Objections Groundless.

Circumstances preventing Union by 1st & 2nd

Constitutional—

(1) Bad habit. Some people constitutions are such that the slightest cut heals by the 2nd Intention such persons can never be expected to have their wounds heal by the first 2 methods—

(2) Get rid of the disease if possible, Iodide of Potash for Scrofula—Mercury for Syphilis as these prevent the immediate Union—

(3) after the wound begins to heal, a simple fever may set in. the wound, which was closing now gapes: and we must use active antiphlogistic remedies.

Local—

(1) Atmospheric air. Is a Poison to a wound. it stimulates the wound. dries up the Plasma creates scabs. and keeps up Irritation.

(2) Foreign Bodies. These are to be extracted if possible. but when they are comminuted like glass fragments, then we must resort to water dressings and poultices to hasten on suppuration and expel the intruders—as if they remain, the Cicatrix will ever remain tender to the touch—

(3) Large Coagula of Blood. Liston observes this practise; never to close a large wound, until it has been repeatedly sponged and a dry shining coat covers the Surface, (id est) dry, and glazed with Plasma—

(4) Laceration. Shreds will not unite by the 1st two methods, but slough off—

(5) Faulty Dressing—Cuts, in the country, are filled with Sugar, salt, Liniment, and the Lord knows what else; which necessarily prevent Immediate Union and that by 1st Intention. Mütter says wounds should be sponged, and then dressed lightly with a piece of lint dipt in water and covered with an oiled silk—a Cerate cloth used in artificial and accidental wounds about the thorax and trunk, to guard against the liability of the patient taking cold—

Incised Wounds.

Definition = a wound made by a sharp instrument, cutting clean through the tissues.

3 Characteristics to be attended to. Pain, Gaping and Hemorrhage. Pain due to nerves

The Gaping is due to muscular and

16/ Organic contractility. Hence the limb must be placed in such a position so as to relax the muscles—

Pain due to a wounded nerve. Often an indication of the extent of the wound. A severed nerve does not give so much pain as a wounded one. Since in the one case all communication between the brain, and part is cut off—

Hemorrhage. Must be arrested the first thing— Spontaneous arrestation we are obliged sometimes to wait for. Hemorrhage from an artery wounded horizontally thus ⊣ bleeds more than one wounded ~~horizontally~~ longitudinally or obliquely thus ⊢ & ⊿ as the fascia and external sheath of cellular tissue slide over and close the wound more readily. A torn and lacerated artery bleeds the least, as it favors coagulation, and is contracted more readily. But an artery ~~xxxx xxxxx~~ severed bleeds least of all as it contracts, retracts and buries itself in its cellular sheath. The circulation is reduced, blood does not flow so readily: Then Law follows Spontaneous Arrestation. The blood coagulates about the mouth of the wounded artery; then a clot forms within, which increases in a Pyriform shape, adhering to the walls of the artery, gradually converting it into a solid cylinder till it reaches the first anastomosing branch, when of course the top of the coagulation is washed off as fast as it accumulates by the current of blood. The artery is thus converted into a permanent fibrous cord, as in the case of large arteries such as the Femoral, or, the artery thus solidified is absorbed.

1) To assist Spontaneous arrestation of Hemorrhage; whether External or Internal, lift the patient on his feet, until he faints, in which state he must be allowed to remain from 15— 20 minutes. Fainting weakens the circulation, and thus blood clots can form. Bleed him if he struggles and does not faint, carry him on a shutter into a cold room, apply cups, and suction instruments to bring the blood to the surface. Give him Digitalis, cold, positive rest and quietude. Antimony may be given, but it is dangerous for you do not know how much the patients stomach can bear, and if he vomits, the circulation is increased

and he must die.

Hemorrhage from wounds in the palm and foot, supposed by Forced Flexion, that is by tying the forearm on the arm, the legon the thigh, this should ever be done, before you resort to tying the large arteries.

(2) In accessible vessels we use -

The Ligature, which divides the two inner coats of the artery, Hæmma is thus formed and the lips united. The cellular or external coat never is cut through, because it yields but our main object in tying an artery is to sever the other two. The reason why tying a vein is attended with hazard~~s~~, is due to no coat being severed, hence inflammation Phlebitis sets in, Pus is formed which mingles with the blood producing death -

Ligature

Effect on an Artery = Circulation is stopped, coagulation sets in, serum is Evolved or "squeezed out" Clots adhere, and solidify the artery -

We tie a double or "Surgeon's Knot" leaving the ligature to prevent it slipping, cut off one string, and leave the other protruding from the wound; the ligature is evolved by Ulceration, time varies in different vessels, in the femoral weeks elapse; If a tendon, nerve, or fascia is included in the knot the time required will be longer: Must hasten it, by keeping the ligature on the stretch, never jerk it -

When an artery is weak so as to be divided by the ligature, plug it with bougie, a cylindrical piece of Flesh, and either tie over, or pin it. In soft, weak, arteries where we cannot do this we Elevate the surrounding fascia, around the artery, by two tenacula inserted at right angles, and drawn up together, and tie a ligature around the base of Tenacula, which effectually stops the Hemorrhage by compression -

Torsion and Machine

Torsion is twisting the mouth of an artery - Machine is the tearing of a portion of the artery both only used in very small blood vessels -

Compression

Class of wounds in which it is useful, is wounds of Extremities, or over bones or hard tissues. cavities oozing wounds deeply seated.

Agents of Compression. 1st Lint, Prepared sponge compress or the Graduated Compress, so called from the pieces increasing in size from the wound upwards. You can take away the outer layers about the 4th or 5th day, but do not touch the last layer until suppuration sets in

and dislodges it. 2nd Rollers. Should be of muslin, with the selvedge carefully washed out, should be long, so as not to be stiffened. Selvedge taken off, no loose shreds shedding out, as they irritate the wound. Linen is not good as it is smooth, and apt to slip.

2nd Hands of Assistant. This is where we desire to save blood. The assistant grasps one thumb on the main artery and puts the other thumb on it to ensure compression. Hence as only the artery is compressed the veins are allowed to discharge their contents in the body, and hence the blood is not lost. It is also well to allow the limb to be raised a few minutes before the operation, whilst compressed, to ensure the emptying of the veins. This is done when the patient is feeble hectic, and consequently cannot bear the abstraction of blood. 1st Tourniquet. Before you buckle this the plates should be in positive contact. 5th Gaut. or Spanish windlass. The 4th and 6th are temporary instruments, as they are liable to bring on mortification if left any length of time.

A Bladder inserted in rectum for piles, tumors, and then inflated is a good compressor. Dupuytren's compressor consists of a canula with a muslin attached into which you stuff muslin, used this is for cavities, as in operation for stone, where oozing may be concerned.

Refrigerants

The best is the atmosphere itself cool and in a current. Blowing, with mouth, or bellows, cold water, ice, Sulphuric Ether. These agents are used for oozing alone.

The tissue itself is used as a compress, as in hair lip, where we fasten the flaps with a pin, which compress the tissues and stop the hemorrhage. Also the blood, as in violent Epistaxis, where tying the arm, cold application, fail, we plug up the nose anteriorly and posteriorly, by passing a flexible rod or bougie through the inferior Nares and after fastening a sponge to the posterior in the mouth we draw it back, and the sponge plugs up the posterior orifice, we then plug up the anterior orifice or nostril, and the blood collecting acts as a compress ——— called Bellocque's Canula

Styptics and Absorbents

Used in oozing. Agents. Powdered Rosin, in oozing from sloughs. Etc.

Cautery and Caustics

Potential and Actual. Potential = Mineral salts. Actual = heated iron. Iron should be of a white heat, in deep wounds. Cherry or Red heat, when we do not wish to cause slough. Used with great benefit, from oozing from a porous bone.

Suture

May be used in Longitudinal cuts of arteries, when you do not wish to ligate it.

Seton

Used by the French, in Ulcerating aneurismal tumors; by passing 3 needles with tapes through the diseased artery.

Plugging

wooden plugs. inserted in the orifice of bones when the nutritious artery is injured—

Electro Puncture

an acupunctured needle is passed through the artery, and a stream of galvanism sent through it.

The manner by which circulation is carried on is by the capillaries and anastomosing branches. Hence the necessity in large blood-vessels, of tying up both ends of the artery, to ensure against Regurgitating or Anastomosing Hemorrhage.

It is hazardous to tie up a main artery in limbs that have been affected with Erysipelas. Because the Inflammation may have obliterated the capillaries, or interfered with the anastomose branches; Circulation cannot ensue and the part mortifies.

To Remove Comminuted foreign bodies; Pour a stream of water on the wound, for several minutes.

Agents employed in bringing a wound together. 1st Position. the muscles of the part must be relaxed. 2nd Sutures— Serres Fines, or Hooked Silver Pins. 3rd Adhesive Straps, Collodeon, Gold-beaters Skin— Court- plaster—

2d Sutures. 1st Interrupted Suture; which are tied seperately at intervals of 3/4 to one inch. the Knots must be tied to one side of the lips of the wound to guard against irritation.

2nd Figure 8 Suture, as the hare lip pin wound round with thread. Enquire for common German Insect Pins.

3rd Quill Suture— used in parts liable to slough, as the Perineum when lacerated during Labor. The long ends of the ties suture must be retained to tighten it after a few days—

4th Glover's Suture. Sow over and over, used for wounds of the intestines, the suture comes out, and is Expelled per viam naturalem.

To make adhesive Plaster, adhere Paper to its under back, over a bottle filled with warm water, then apply the Plaster, in strips, by

attaching the two ends first. Leave short intervals between the straps for the escape of pus. To take off a strap of Adh. Plaster, never pull it off, but take it off longitudinally from each end till you arrive to both sides of the wound then detach it transversely. When you apply new straps, take off the old ones one at a time applying a new one in the place of each old one, before you proceed to detach another old one. Liston's Adhesive Plaster, is Gummed Muslin, is transparent, but cannot be used with water dressings.

Mütter makes use of Ratinet, or Coarse Gauze covered with Cerate, for with one turn of roller, for wounds of trunk; and lint dipt in water for Extremities — where union by the 1st Intention is aimed at.

Wounds Occasioning Loss of Organs —

If the accident has occured within an hour attempt to place the amputated portion on, especially if it hangs by a skin; and it may unite. When a piece, say of the arm, is cut clean out, approximate the edges of the wound, and endeavor to have it heal by the modelling process of Mr. Carteny.

Subcutaneous Wounds

are usually made by the Surgeon, as in the Valvular Opening to cut the Tendo Achillis. Sometimes they occur in Stabs, where the cuticle closes the orifice immediately; and we must artificially darken this; for Subcutaneous wounds never are Inflamed, and heal by unclosed Blastema; External wounds heal by granulated cells.

Lacerated Wounds

Def = Parts torn into Shreds —

Causes = Machinery, Gun Shot, Blunt Weapon.

Characteristics = 1st Want of Hemorrhage, for either the arteries are too paralyzed to contract, or else the blood coagulates on the Shreds. 2nd Want of Pain — for the nerves are either destroyed, or too paralyzed to keep up the Sympathy between the brain & wound.

Treatment = Tie up all arteries to guard against Sec. Hemorrhage. Keep on the look out for Sloughing. When you wish but one scar, as in Lacerations of the cheek, cut off all the Shreds make a clean wound & unite the edges —

so as to have but one scar. But in lacera-
ted wounds of extremities, or trunk. Lay each
shred down carefully in its place, avoid, if pos-
sible, stitches, sutures, tight bandages, as they
promote sloughing; Apply the cold water
dressing, if this increases pain change it
to lint dipt in warm water, and covered with
oil silk. If Suppuration sets in, cut away
all dead shreds, promote by warm water dressing.
Mütter does not recommend poultices, as they
grow stale, keep up irritation and promote sloughs.
General Observations. = Determine at your 1st
visit, whether to amputate or not, as Primary
amputation is always better than secondary.
If you conclude to amputate, wait for hours &
even days before you touch the limb, until re-
action sets in, and the patient has recovered
from the shock to his system from the accident.
Even if the bone, strip of its Periosteum, pro-
trudes from the lacerated wound; ~~if~~ the pulse
of the main artery is felt below the wound, the
patient constitution, and the weather favorable,
always attempt to save the limb—

Contused Wounds.

Def. = Injury to parts, with cuticle unbroken
3 Classes of Contused Wounds. Thrombus — Ecchy-
mosis — when the Parts under the cuticle are
reduced to a Pulp—
A Bruise or Simple Ecchymosis = Laceration
of Capillaries & Extravasation of Blood in the
cellular tissue. — It is first Purple, the color shading
off — Suction and Painting used by Malin-
gerers. Suction determined by each globule
of blood being distinctly seen. In painting the
color does not shade off. Stasis after death
produces all the appearance of Bruises — but the
cuticle is in recent cases adherent, and no
coagulation of blood — called Suggillation
Treatment. In bruises of the eye, or ordinary bruises
apply Cooling Lotions, and the purple color will
change to Yellow and greenish Yellow. At the
6th or 7th day, if the bruise still continues, apply
Stimulating Lotions, Salt and water, Tinc. Iodine
Leeching will not remove the blood — but gen-
eral depletion may be efficacious —
In other bruises, say of forearm, with circum-
scribed tumor, swelling almost to bursting, apply
roller bandage, keep it wet with ice water, bleed
in the opposite arm — Never open at first as
hemorrhage may Ensue. If clot increases
lay open the skin, do not remove the clot but
apply warm water dressing, it will soften

and be expelled, leaving an ulcer, to be healed by granulations. You may be obliged, in cases of obstinate hemorrhage, to tie up main arteries.

Punctured Wounds

Def. a wound that does not injure vital portions, as Rusty nail, needle puncture, which if in the joint may be fatal.

Round Instruments, make like Cutting Instruments. Linear Edges; but in the former the edges are depressed, in the latter the Edges are Even or Everted - Jpouting -

Treatment of Punctured wounds of needles - where a piece is left in the hand, if you feel it cut down and cut it out, if not, let it remain, no danger of Tetanus - apply warm Jpoultices and wait until the needle works its way to the surface and you can feel it. If a needle threaded is thrust into the flesh, cut down, keeping the thread as a guide -

Rusty nail. Cover foot with lint and equal parts of warm water and Laudanum. Jpurge the patient. If twitches occur give a mixture of Cal-camph. Opium, do not Spare the latter. Apply counter irritation along the Spine. Give Ether and Chloroform when Spasms set in -

N.B. If inflammation sets in the wound from a nail in the palm or foot, and the lips of the wound are everted, make a free incision with a Jprobe pointed bistory, cauterize with Nit. Arg. As a general rule, Never dilate a Puncture wound. And use warm water dressings -

Penetrating Wound

Def. = Differs from the former, by being made with sharp long instruments, wounding large cavaties, as Lungs, Stomach - Etc -

Greatest danger - Internal Hemorrhage - and Inflammation Especially in wounds about abdomen -

Foreign bodies to be removed if accessible, and orifice to be closed as soon as possible -

To arrest Internal Hemorrhage. vide page 16.

Poisoned Wounds

(1) When produced by insects. Examine with a glass. take out the sting. The poison is always acid, hence neutralize it by Alkalies. Salt & water. Aq. Ammoniae.

(2) When produced by bites. Tie ligature above, Excise Cup or Suction - Caustics - Poultices - Nit. Arg.

Do not suck if you have a Carious tooth - cold sore, cancer on tongue, or any excoriation -

(3) Dissecting wounds - Suction - Caustics - blister above

the wound, and passing all round the finger. apply leeches - poultice or cold to part - Constitutional remedies -

Rabies

3. Groups of the complaint -
1st Comprises the Symptoms during incubation - wound either closes, or a tender cicatrix remains - the Zymosis is said to be stationary -
2nd Comprises Constitutional Zymosis - the patient is either depressed - malaise, or Raving cannot drink water -
3rd Where convulsions set in, followed speedily by death ☠.

Treatment. Excise cicatrix - cauterize Nit. Arg. give indefinite quantities of Opium -
When Convulsions set in - case hopeless - give Ether - Chloroform to ease the Spasms -

Gun-Shot Wounds

Def. = Solution of Contenuity by fire-arms -
Varieties. Depend on form of the missile - projectile force - tissue involved -
Characteristics = two, Constitutional and Local.
Constitutional = Extraordinary Perturbation of the Nervous System. Fever - Inflammation of Wound and whole System -
Local. If the missile is round and swift: the wound of Entrance is a smooth hole, depressed edges - bluish - Wound of Exit - Ragged - Everted - lacerated -
One wound of Entrance, may have two or more wounds of Exit, due to the splitting of the bullet on some sharp bone -
Sometimes there is but one orifice, the bullet coming out of the wound of Entrance -
If the bullet remains flattened in the wound of Exit, it indicates, that the person was in contact, at that part, with some hard substance.
Windwounds, so called, caused by a spent ball revolving on its axis, taking a curvilinear direction, and striking obliquely; it may destroy all the tissues of a limb, and leave the cuticle in its integrity -
2 Local Characteristics of gunshot wounds in general. 1st More or less discharge of blood, according to the lesion of important vessel -
2nd Pain, generally less than in similar situated incised wounds. The pain is intense where lesion of nerves, and serous membranes are occasioned -
Treatment. (1) If the patient mental or physical powers are prostrated, make no Examination of the wound until naturally or by stimulants reaction sets in -
(2) Arrest External Hemorrhage, by the ligature, tourniquet,

Etc. Internal by remedies on Page. 16.

(3) Examine wound, after placing the patient in the position, in which he received the wound - Finger the best probe. Silver probe for small w-

(4) Remove foreign bodies if accessible; by Gun Shot Forceps of Dr. Every. Never dilate a wound for this purpose, nor take pieces out of the bone, except on the skull, and flat bones. Make counter openings where you distinctly feel the foreign body. and with a free incision 1 inch - 1½ inches -

(5) Dress the wound; with the lightest bandages, as the wound swells and compression would induce Sphacelus. Always apply warm dressings to the trunk and sacredly eschew poultices, as they grow stale and promote mortification - Do not plug up the wound with lint

(6) As the wound heals by 2nd Intention or Suppuration, you must look out for secondary Hemorrhage. patient is safe from this up to the 5th day but from this time until Sloughing ceases, he must be vigilantly watched. If a Thrombus occurs, open and let out the clot. if Hem. serious tie up main Art.

(7) If the foreign body cannot be extracted, and Suppuration threatens the life of patient, amputate extremeties, and you will be justified in dilating wounds of the trunk to remove the foreign body -

(8) Two Inflammations are to be dreaded, called the two Complications of Guthrie. 1st Acute Erysepelatous Inflammation which should be promptly checked 2nd Engorgement of wounded limb. Shining as if smeared with Varnish, and swollen you will almost always be compelled to amputate.

(9) Support general health. give Opium for pain -

Shot Wounds

Pick out the superficial ones. leave the rest.

Gunpowder Wounds

Take out the particles with a needle. apply warm poultice to soften the tissue. Then place a blister over the wound. wait till the cuticle is raised and filled with serum. puncture it, and the fluid will wash out the remaining particles of powder, which would otherwise have discolored the skin -

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Prof. Mütter disagrees with surgeons who recommend amputation, where bullet is lodged in the thigh bone, and cannot be dislodged. For, he affirms, that the ball may have an ofseous deposition, or be encysted so as to produce but slight inconvenience -

3rd Division, or Diseases of Regions & Organs—

I. Injuries of the Head.

Wounds Head.

Importance of the Injuries. The Scalp consists, as far as Surgical Anatomy is concerned, of 1st Cuticle with hair or. 2nd Cellular tissue. 3rd Muscular and Fibrous Coat 4th Cellular tissue 5th Pericranium or Periosteum 6th the Skull 7th Dura Mater 8th Arachnoid & Vascular Covering. Now from its high organization the scalp is liable to Erysepelatous Inflammation, and as there is a direct Vascular communicaton between the Pericranium and Dura Mater, the latter is liable to be affected similarly.

Incised Wounds.

No injury of the scalp beneath the notice of the Surgeon.

1st Arrest Hemorrhage 2nd Shave the hair well off, as the wound may be extensive and concealed by the hair — avoid stitches — approximate edges, close with strips of adhesive Plaster — Lint dipt in water. Immediate Antiphlogistic treatment and diet.

N.B. A wound involving the Occipito Frontalis, is the only one to be closed with the stitch. but we must avoid stitching the muscle, and only tie the integument.

Lacerated Wounds.

Arrest Hemorrhage — the vessels exposed — Shave hair — bring the scalp to its position retain it with Adh. Plaste. (Avoid the use of stitches — compression — bandages — or even cap). Lint dipt in warm water if patient prostrate — Cold water if fever or reaction set in — Lay each shred down carefully —

Contused Wounds

a — Bloody Tumor

Tumour arises from rupture of blood vessels in the scalp. If the tumour is pulsatile, it indicates an injury to some main artery. Compress or take up some main artery until the pulsation ceases. Apply ice water to allow the blood to coagulate — Diet — Purge — Antiphlogistic treatment. Use stimulating lotions — adhesive Plaste. to absorb the hardened coagulated clot. Turn it out by free incision if the clot is solid and cannot be absorbed as by Progressive Absorption the bone may be involved. If tumour is hard — inflamed — soft about the Edges Open it as soon as, suppuration sets in —

This tumour is Peculiar to children —

b. Suppuration between Scalp, Etc.

Suppuration may exist between the Occipito Frontalis and Pericraniums, or between the Pericranium and bone.

As soon as fluctuation is perceived in the obscure Swelling, make a free incision down to the bone — as we do in Paronychia, to relieve the firm tissues from stricture —

c. Separation of Dura Mater.

after a blow. a child's is changed as regards temperies perfectly quiet - asks for nothing - great languor. hot fever - squinting of Eyes - Spasms - (chills which indicate the commencement of Suppurations.) convulsions and ☠.

The Arachnoid and Vascular coverings, are involved and deposit Serum and Pus. Usually fatal. Antiphlogistic treatment. Give Mercury to absorb the Serum. May trephine the spot. indicated, but 99 chances against you —

Punctured Wounds

causes - Nail - fork &c —

Such slight causes bring on Neuralgia - Inflammation - Shave head - Lint with water - look out for Tetanus

2nd Class.

2nd Class = Wounds of the Scalp and Bones -

Incised - Lacerated - contused - Punctured wounds

causes = Sabres - axes - saws circular -

In simple cut, without laceration, close the External wound at once -

When the bone is lacerated, do not close entirely. Put a piece of lint, to serve as an outlet for the Pus, and Serum. Put the wound in a dependant position.

In wounds, where bone and scalp, are sliced off clean, and hang by the skin, Put both scalp and bone in position —

Bony fragments pick away. bring back the flap alone dense fibrous membrane will close the bony orifice -

Where the scalp and bone are lost. Shave the head - dissect up, on each side, between the Occipito Frontalis and Pericranium - leave each flap attached at one extremity bring them over the wound. Let the raw surface heal by Mc. Cartney's process.

Penetrating Wounds

causes = Ramrod - Bayonet - Dirk - &c —

The Cerebrum is capable of receiving a large wound without mental or vital disturbance -

Draw the offending cause out: if broken in, and inaccessible without dilating, let it remain -

If the missile is firmly lodged in the bone, trephine around it, or use the circular saw to dislodge it.

Treatment. Antiphlogistic.

Gunshot Wounds

Do not extract the bullet if lodged in the brain - because greater inflammation will be the result and perhaps the bullet may become encysted.

Do not close the wound. Lint dipt in warm water. Patient usually dies in 3 or 4 days from Inflammation of brain. His mind usually unencumbered.

c. Wounds of brain, membranes Etc.
Wound of Longitudinal Sinus
Compress or ligate it.

Encephalocele or Hernia Cerebri.
after a fracture; the brain may become swollen and too large for the scull, it then protrudes from the wound, increasing with fungus granulations. The patient mean time, has quick, irritable pulse - aberration of intellect and is febrile.
Now we must not push back the protruding mass into the cavity of scull, because the patient will expire from compression.
But cut off the mass close to the scull, and apply lint dipt in Lime water to harden the tissue - put a strap on - Give antiphlogistic remedies, and Mercury until the gums are touched.
Prognosis. Very unfavorable -

III. Fractures of Bones of the Head.
Causes. A blow on Occiput may fracture Temporal - a blow on Frontal, orbital plate may be fractured. A fall on the feet may fracture the Petrous or base of the Skull.
Varieties. Simple Fissure, as an axe cut. Counter Fissure, on the opposite side struck by the blow. Multiple Fracture with comminuted pieces - Camerated Fracture with double depressed edges. Simple Depressed Fracture, or one edge depressed. - Stellated Fracture, generally on the inside, radiating from a depressed blow on the outside. Compound Fracture of all the above, where integument in addition is broken.
A Fracture of only the External plate of Skull, may occur, but only in adults.
Children's bones, are frequently depressed for days by a blow, and then recover their integrity, neither being in the least fractured.
Symptoms. Fracture of Petrous portion of Temporal bone, or base of Skull, is followed by all symptoms of Compression, with discharge of blood and Serum from the ears. Patient always dies.
A Blow on the Frontal bone, with signs of concussion and compression, with protrusion of a black eye out of Socket, indicates fracture of the orbital plate, with Extravasation of blood.
The fracture of the Outer Plate of the Frontal Sinus is indicated, by Emphysema, or the inflation of the whole scalp with wind.
Treatment. The diagnosis of a simple fissure is very difficult, usually denoted by a pinkish line, and perhaps slight depression to the touch. Do not trephine - If the patient is comatose. Bleed - when compression is indicated - Antiphlogistic - Mercury - cold applications.

In open fracture, trephine, and take away the pieces.
Fracture of Orbital plate - Do not puncture, unless the Eye protrudes so much as to endanger the eyesight. then puncture and suck out the blood.
In Fracture of the Frontal Sinus attended with Emphysema, take away the air, by punctures remote from the seat of injury. apply cold.
If outer table driven, elevate if compound, let it be if simple. If the inner plate is broken, use two trephines commencing with the larger one.

Concussion of Brain

Def. That Lesion in which the brain is thrown into simple Oscillation - or Oscillation with separation from its membranes - or Oscillation with Laceration of fibres of the brain -
The above proved by Gamat, by a matrix filled with jelly and containing Straws.
Symptoms. of Stunning, or Simple Oscillation. patient staggers - sees flashes of light - incoherent - disposition to lie down.
of Oscillation with Separation from its membranes. patient senseless - cold skin - quick feeble Pulse - pupil contracted - nausea and vomiting. If you tickle his foot or shake him, he will rouse for a little
of Oscillation with Laceration of fibres. Convulsions - involuntary discharge of faeces - impossible to arouse him to even momentary consciousness -
Treatment - of Stunning - keep quiet - horizontal position - gentle Stimulants. It may lay the foundation of Inflammation of brain, and should be watched.
of Loss of Consciousness. Throw hot water and brandy up the rectum - place him in warm bed - mustard plasters. When reaction sets in, purge by injection give Tart. Ant. with neutral mixture - diet - bleed only on appearance of Inflammation
N.B. Never pour down liquid, if he cannot swallow as it will fill the lungs. Never bleed during the state of insensibility. Never apply volatile salts or Essences of any kind to his nose.
of 3rd degree. Almost hopeless - stimulate greatly - use electric and galvanic agencies.
(Patient dies from Syncope)

Compression of Brain.

Def. Brain pressed by something between it and Scull - or by something within the substance of brain.
Illustration. Aberration of mind - paralysis of a dog who had a dry and wet Sponge placed on his brain -
causes. Depressed bone - Effusion of blood - collections of Pus and of Serum - (Patient dies from Asphyxia)
General Phenomena. Skin warm - pupils dilated. Pulse slow and laboring - can't rouse the patient -

Stertorous Respiration - Whiffs - retention of urine - involuntary discharge of faeces -

"Manner of ascertaining the nature of the compression.

1st The compressing cause is a depressed bone, when the patient is knocked down, and immediately lies senseless -

2nd If the patient has been stunned, got up, and has been perfectly well for hours or days before he exhibits symptoms of compression, it is Blood.

3rd If a couple of weeks have elapsed since the injury - with a little pain in his head - with chill or rigors. With nausea. It is Pus.

4th If there is no chill, but nausea and head - ache, it is Serum.

Treatment. 1st When the bone is depressed - trephine remove the fragments, or Elevate them -

2nd If from effused blood. Trephine below the wound or on the opposite side, to the side paralysed - If the clot is between the Dura mater and Scull, break it up with your finger and let it be forced out by the pulsatim of the brain. If under the dura mater - and the brain pourplish, make two deep cross cuts. For Pus Before you resort to instruments - Bleed - freely - cold applications - Stimulant injections -

3rd Pus and Serum. Trephine without delay -

Trephining

Circular Saw - Haze saw - Elevator - brush - scalpel with chizle at one End - a round piece of soft wood to plug up arteries in the bone -

Parts to be avoided." Never trephine over the sagittal Suture, as the Longitudinal sinus lies beneath. Nor the occipital - nor the middle of the Temporal bone, as the Temporal artery and fossa are there.

"The Operation" Do not cut the scalp, but push aside the wounded portions for the admission of trephine - if posible. If not, in a compound fracture make a crucial incision, with four angles - If the integument is sound make an incision thus). Dissect up the flaps, scrape off the periosteum. Place the point of trephine on the edge of sound bone, so as not to depress further the broken piece. As soon as you reach the diploic the gutter will be filled with blood. Remove the point, and work more slowly on the under table, examining frequently with the probe so that you may not penetrate the brain. As soon as you have perforated the inner table any where cease to saw, and pry up the pieces with the Elevator where the bone is depressed, bring it to a natural position - Examine brain carefully to guard against small spiculi. Bring the flaps together and secure them with adhesive Plaster, leaving an opening for the escape of Pus.

Dressing - Lint dipt in water - Antiphlogistic

 The opening in the bone will be closed by a strong membrane.

Fracture of Spinal Column

Usual seat of fracture. Spines - Bony bridges & body.
Division. 1st Those above the 4th cervical 2nd Those below this point -
Injuries of the first are always fatal - as the great phrenic nerve is injured - the diaphragm is paralysed and the patient dies from asphyxia.
On injuries near and below the 4th Cervical. there is an entire paralysis all below the seat of injury - the abdomen becomes extremely inflated with wind, due to the paralysation of all motion of intestines - Retention of Urine - involuntary discharge of faeces. - previous cold skin becomes very hot.
Diagnosis. Told from luxation, by depressing the spine. Place the bony spine in situ, it will remain in position by the swelling preping on it.
Steady the patient in bed.

Luxation

If above the 4th cervical - Death the usual result.
Vertebrae most liable. The Cervical, especially the 2nd This may be luxated in 3 ways. 1st Simple laceration of the anterior ligaments & as moderator, band the Processus Dentatus is thrown on the Medulla oblongata. 2nd a severe blow upon the back of the head the transverse ligament is broken, and the head with the 1st vertebra is thrown forward, necessarily implicating the Medulla Oblongata. 3rd The Processus Dentatus is broken across - indicating a blow upon the top of head, or of it's being twisted.
Symptoms of partial luxation of cervical below the 4th Difficult Respiration and deglutition - head twisted immovably to one side - Spinous & transverse Processes irregular - more or less pain from twisted nerves.
(To distinguish this luxation from Torticollis, a slight force will put the head into place, and the Sterno Caido Mastoideus of the paralysed side will stand out like a whipcord upon turning the head the opposite side - in Torticollis)
Treatment. Let the Luxation alone if the pain and other symptoms are light. If however all the above symptoms occur, and life is in jeopardy, warn the patient of his danger, as in the operation the medulla may be injured. Make the Patient sit on the floor - let two strong persons hold him down by the buttocks - grasp the head firmly under the chin, and pull in the line of Displacement.

as the bones separate, which will be indicated by the less resistance - turn the head slowly in situ and let it drop into the socket. Keep the head steadied for 2 or 3 weeks, as a slight cause will relapse.

Spontaneous Luxation -

Causes. Caries of the occipital condyles, from Scrofula - blows - Syphilis -
3 Stages - 1st Forming Stage 2nd Developement - 3rd Convalescence -
Symptoms of 1st Stage. Often one condyle is affected. Pain on turning his head - leans it on his hand - pain in deglutition. a swelling will be detected under the mastoid process of the affected side - when two condyles are affected. The head leans upon the chin - Treatment of 1st Stage. Antiphlogistics - Leach - Blister locally - Iodine if Scrofula.
Symptoms of 2nd Stage. Hectic Fever - Cannot bear the slightest jar - intense Pain - Treatment - a Seton in back of Neck - cold salt baths -

Curvature of Spine

Def. Any deviation of the Spine, from the line of gravity - due to irregular muscular action.
Varieties. 1. Lateral 2nd Posterior 3rd Anterior -
Lateral Curvature is most common, accompanied with two curves.
Posterior curve, is found where irregular muscular action is indicated - has sharp, acute angle in Caries of the vertebrae -
Cause of Lateral Curvature are - Sex - Children - Scrofulous distempers -
There are two deviations in a Lateral curvature 1st a deviation, taking place first, in lower dorsal and upper lumbar called Primary Curve. 2nd Secondary Curve due to the efforts of patient to keep his head upright.
Symptoms. Inclination of one shoulder - Child hitches the shoulder up to prevent drop from slipping - Shoulder "grows out" or projects - a distortion of opposite hip.
Prop hand all along the spine to leave a red line, which will show the amount of curvature -
Diagnosis. Confounded with Paralysed Deltoid muscle. Easily detected for in Paralysis, by Elevating the shoulder of affected side, all Curvature will disappear. Natural Inequality detected, by placing a book under the shortened limb, the curvature will also disappear -
Pathology. Does not depend on dislocation of bone - nor on disease of ligaments or bones; but is the result of irregular muscular action -
Effects. Distorts adjacent bones as ribs - soft tissues - Causes difficulty of Respiration from confined chest - Irritation of bowels by Flatus - Anchylosis of concave side of Vertebrae.

Marriage. If Pelvis undistorted, all right -
Treatment. Get rid of the causes - relieve the Columns
from the weight of head and trunk - Spine chair - brace,
with a pad for projecting side - Cold bath - lie on plane
surface - Stretching by fastening hips - armpits - and
throat - always support the Spinal column -
Gerando's operation of cutting the muscles of the
concave side, useless when there is anchylosis of the
vertebrae, which most cases have -
Galvanism. simply a relief for oppression in respi-
ration and flatus in bowels -

Shortened Spine

causes - Atrophy of the intervertebral Substance.
Prognosis. Irremidable -

Caries, or Potts Disease, of Spine.

constitutional causes. Scrofula - Tuberculosis -
Simple Inflammation - from falls - blows. Master-
bation -
Anterior portion, or bodies, of vertebrae are eaten
away.
Symptoms of Forming Stage - Children unusually
backward in walking or sitting - Scream if placed
upon their feet - trips or tumbles about - complains
of great fatigue on slight Exertions.
Press your finger along the spine when you come
to the diseased spot the child will Scream - or
take a Sponge with quite hot water, draw it along
the Spine, the child screams, at the diseased spot.
Symptoms of Second Stage or Suppuration. Patient
miserable - feeble - fevered tongue and skin - pains
in abdomen - a puffy swelling, or little knuckle
found on either side of the Spine -
Treatment. Horizontal position - Cups and Leaches
Support Head and trunk - Tinc. Aconite - Spare diet -
2nd Stage - When hectic fever sets in - abscess - paralysis
abscess pointing to the Groin near Poupart's Ligament -
Change the room - air - Iodide of Potassium with Cod Liver Oil
Counter irritation - issue on each side of Spine - Cold
bath - frictions. The great object of the Physician is to
bring about anchylosis of the vertebral, hence it will
take months to accomplish this.

Lumber and Psoas Abscess.

Def. an abscess developed in the Lumber regions, de-
pendant upon caries of the Spine - The Pus travels
along the side of the Psoas muscle, and lodges about
Poupart's Ligament, pointing to the Groin -
Symptoms. Rigors - Hectic fever - Fluctuations - Iodyne
with Cod liver Oil - Paint externally with Iodyne -
Soap Cerate Plaster - Rest. Do not Open it unless ulcer-
ation is threatened - If you open it, Open it under
warm water to keep the air out. This is a
new method of Prof. Bonnet.

Spina Bifida.

Def = Malformation from arrested development of bones of the Spine.
Result = A Hernia of Spinal Membranes with a sack of Serum - it is the celebrated Subarachnoid liquid of Magendie.
Prognosis = Very unfavorable -
Treatment = Puncture frequently the sack with the finest cambic needle - Compress guardedly as fast as the sack shrinks or shrivels. A Sibede recommends putting some Elastic ring about the base, changing it for one smaller until the base is reduced to a pedunele, then cut it off.

Injuries and Diseases of the Abdomen

Wounds

Varieties. = Superficial and Penetrating. Superficial are those wounds which are between the Peritoneum and Superficial fascia - Penetrating are those which pierce the Peritoneum, and may be of two kinds. 1st Those involving the Viscera 2nd Those in which the Viscera Escape.
Prognosis in Superficial Wounds = Generally favorable. May give rise to abscess which shall absorb the muscles and leave nothing but Peritoneum and Skin - or it may produce Inflammation of the Peritoneum - Hernia may be developed through the tender cicatrix.
Treatment of Superficial cuts = Flex the thighs on the pelvis and Elevate the trunk, so as to relax the muscles - Stitch in the integument, avoid the muscle; if the muscle requires stitching, do it superficially -
Penetrating wounds where no important viscera are injured, after reaction sets in, no distressing symptoms arise. Close the External wound or wounds - Horizontal position - Large dose of Opium to stop Peristaltic motion of the bowels - Do not purge - after 4 or 5 days open the bowels by Enema.
Penetrating wounds involving viscera. If the intestine protrudes uninjured, moisten it with warm water - pull each end, the end that yields most readily must be pushed in first, as it came out last - dilate the wound if necessary - close the External orifice -
If Omentum and Intestine project together, push the intestine in first.
Wounded Intestine. If cut in a straight line, not more than ½ inch, return it untouched. Mucus membrane will block up the orifice - When more than ½ inch in length, pass the Glover's Suture on; it will come out per vias naturales - When the orifice is a puncture, round - the mucus membrane will not block it up, hence Twitch up the orifice with forceps and ligate its base, cut off the Ends and return it -
The Patient, in all these cases, must lie on his face or side, so that all the weight of the intestines may gravitate and the wounded intestine, and glue it to the walls of the abdomen -
To dilate the wounds, it generally only necessary to cut all but Peritoneum
If omentum is Lacerated - ligate the vessels, and cut off all loose shreds before returning it -

34 Where the intestine is severed— Either make an artificial anus at the wound: or do what Guthrie recommends = 1st Jobert of Paris passes a straight needle through all the coats of the intestine, and makes 3 or 4 sutures, but before he tightens them he presses in the edges of the intestines so as bring two Serus coats in contact— 2nd " Lembert who does the same as the preceding, except that he does not pass the sutures through the mucus coat. There being 4 coats to the bowel. 1st Serus or External 2nd Musculas 3rd Fibro cellular 4th Mucus or Internal.
[The old methods of Invaginating, when one sheath is placed within the other, a mucus in contact with a Serus, cannot unite and is useless— also introducing the trachea of a calf, and sewing over it, is not attended with success]
In all these cases the patient must lie on the wound, so that the intestines may gravitate on the wounded bowel and press it against the parietes.

Wounds of the Stomach.—

4 Kinds = 1st Laceration with a sound integument. 2nd " Slight wound in the Parietes and stomach itself. 3rd " Laceration with small External orifice 4th " Portions carried away by bullets.
Diag. of 1st " or Laceration with sound integument. The patient, say, has received a kick, he exhibits all the common symptoms of concussion, in about 15 minutes he will vomit blood— abdomen becomes greatly distended— excessively tender.
Prognosis = Unfavorable— may recover from quick effusion of Plasma — Peritonitis. Chief danger—
Treatment = Let no water, food, medicine of any kind pass into the mouth, To ease the thirst let him suck a wet rag— inject cold water— inject warm animal broths — Opiate Injections — Depletion — fomentation.
Diag. of (2nd ") Escape of the contents of the stomach, or Gastric fluid — Place the wound in the most dependant position, to let the blood &c. run out, when it ceases to flow, close the External orifice— In internal Hemorrhage, bleed till he faints — (3rd ") Dilate the wound— Cut away Shreds, Sew up the stomach — Patient new his belly— (4th ") Let the stitches include Stomach and abdominal Parietes— Opium Enemas—

Wounds of the Intestines—

Symptoms— Distention of Abdomen — hemmorrhage from bowels— exuding of either Faeces— or Sulphuretted Hydrogen—
Treatment, wound in a dependent position — close if a simple cut— Dont close, but Poultice if due to the penetration of a bullet, as this sloughs—

Wounds of the Liver

Symptoms = almost pulseless nausea and vomiting - Pain in the right Shoulder - Swelling of abdomen - Jaundice at a later period -
Prognosis = Very Unfavorable -
Danger from Internal hemorrhage

Wounds of the Spleen.

3 Varieties = 1st Laceration of Spleen with the integument uninjured. 2nd " Injury to both Spleen and integument. 3rd " Extensive wound of soft parts and protrusion -
1st = Extreme collapse - Internal Hemorrhage -
Prognosis = Extremely unfavorable -
2nd = Copious discharge of venous blood - wound must be placed in dependant position - dont dilate it -
3rd = Push back the sound parts of the protruding mass - Cut off unsound - ligate -

Wounds of Large Vessels.

General Rule = Dilate the wound and ligate the artery -

Concussion of Abdomen

The symptoms of a shock to the Solar Plexus are prostration - feeble pulse - cold skin - insensible yet susceptible of being roused - without vomiting of blood.
Treatment: warm bed - Mustard to the pit - hot brandy and water thrown up the Rectum - dry warmth patient dies from nervous shock.

Tumours

Varieties = 1st Superficial, in the abdominal parieties between the Integument and Peritoneum - 2nd Those within the abdominal Parietes.
In making a diagnosis of the Anterior part of the abdomen be guarded - tenderness
If the tumour is circumscribed - painless - uniform - the result of a blow - It is either fibrous - or fatty tumour.
If it fluctuates, it is due to Pus, or is a simple Cyst - but the best test is the needle, which will be fixed in a fibrous, and move about in cyst -
To diagnose a Tumour of hernia - change of position or compress will reduce it, or if irreducible the patient will say that he could once reduce it. This can be said of no other tumour -
Fibrous Tumours on the abdomen should be left alone if stationary, and produce little inconvenience as there is danger of Peritonitis and Erysepelous -
Frequently a Superficial tumour will adhere to the Peritoneum, rendering dissection impossible -
2nd Tumours within the Abdominal Parieties are called Ovarian: these may be fixed or movable - may fluctuate or not - without or no dose -
[If fixed, no one can diagnose what it is.]
The dangers are due to Adhesions to Intestines - Imbedded in congeries of blood vessels - and Peritonitis - Mütter is opposed to the Operation -

Two Operations for Ovarian Tumours—
1st Greater Operation = Incision from Cartilago Ensiformis to Symphesis Pubis—
2nd " Lesser Operation = Incision of two inches above the Uterus— Seize the tumour, tap it— tie the pedicle— cut off the Cyst—

Fistulae—
They are not due to Projection of intestines, but their agglutination to the Abdominal Parietes—
Treatment = Close externally— trusses —Nit. arg—

Gastrotomy.
Operation when large foreign bodies have been lodged in the Stomach— An incision parallel to Cartil. Ensif—

Poisoning.
The Pump is not available in Corrosive Poisons, or of Solids—
Pull the tongue back with one finger, introduce with the other — care not to be bitten—

Hernia.
Def.= A Protrusion of abdominal viscera, covered usually by Peritoneum—
3. Varieties = Reducible — Irreducible — Strangulated.
1st " Reducible, can be returned to the Abdomen by compression or change in position—
2nd " Irreducible the reverse of the preceding, due to hypertrophy — adhesions — Flatus.
3rd " Strangulated, is irreducible, and the circulation is either partially or entirely obliterated— this phenomenon is not the result of the contraction of the Rings, but to the swelling of the viscera thereby pressing it against the edge of the Ring.
Hernial Sac = a Serous Sac, made by the prolongation of the Peritoneum— The Sac is not present in Congenital Hernia, nor in Hernias of long Standing, as the Sac is absorbed by Progressive Absorbtion. The Sac is thin in recent cases — very thick in older hernia. Three anatomical divisions to the Sac. The Mouth — The NECK — The Body— The body is sometimes divided into two by Poupart's Ligament—
Causes = Climate — Sex — Violent efforts that diminish the capacity of the Abdomen—
General Symptoms. 1st for Reducible = Tumour can be passed into the Abdomen (if in the act of passing a gurgling sound is made it is intestine — if it passes slowly, feeling doughy and inelastic, it is omentum) Indigestion — Irregular action of the bowels.
2nd " of Strangulated = Disposition to Costiveness — no pain at first — tenderness in tumour — Sickness at the Stomach — pain of Abdomen — Distension of it — vomiting contents of stomach and Stercoraceous matter — general prostration — Examine carefully for the tumour — in females per vaginam.
The Diagnosis of Hernia may be confounded with Colic Peritonitis and Ileus Passion — Poisoning. In Colic however the patients tosses about and presses upon the abdomen — not so with Strangulated Hernia, he keeps quiet and pressure increases the pain—
Treatment of Reducible Hernia; Palliative and Radical—
(a) The Truss, should be elastic. Soft pad for child and

recent Hernia (Dr. Hood's truss the best). Wooden or glass pads for old cases of Hernia. This operates in two ways 1st retains the protrusion within the abdominal parieties 2nd Produces adhesions and closes the orifice of the canal by the Inflammation it excites. The truss should be worn all the time for at least 1 year. (6) Inject the sac with a Tincture of Iodine, and let it remain there. Before the operation, you compress the external ring. This is attended with some danger.

(2.) Invagination of Integument. (Gerdy). Wash the interior of External ring with Caustic Potash until the integument is raw then push it up on your finger like an inverted finger of a glove, retain it in situ by passing a suture through the doubled Integument and tie it over a cork, this brings the two raw surfaces in contact, they unite and form a Plug.

Irreducible Hernia. Causes = (Collection of Flatus - treated by friction, Stomach tube passed up the Rectum, castor oil) - (Inflammation, treated by phlebotomy - cold applications) - (Adhesions, treated by Peale's Graduated Compress, with a covered spring ring.) (Hypertrophy of Omentum, treated by the Suspensory truss).

Strangulated Hernia. Treated (a) by Taxis, this is never to be continued over a minute, while the tumour is red, inflamed, sensitive. You must first venesect, apply cold tube up Rectum, then begin the taxis after the Inflammation has subsided. Be careful in your Taxis, lest you produce a "reduction en masse". That is, you return the viscera into the abdomen in a strangulated condition. If the viscera move slowly, keep on: if they move rapidly they are being reduced en masse.

(6). Blood letting. Simply for reducing inflammation.

(c). Hot Baths and Ether. to relax the muscles.

(8). Opium of itself will reduce a strangulation.

(4). O'Beirne's Stomach tube up the Rectum for Flatus.

(K). Not Ice, but Ice water, a very proper application.

Now the time which you must limit yourself to, in using the above remedies, must be only ½ an hour in Recent - small intestinal tumours. 2 or 3 hours for large, old, omental tumours; then if these remedies fail, Operate immediately.

Operation. Allister recognizes but two 1st Cut through every thing down to the stricture. 2nd Division of the Stricture without opening the Sac, this may only be done when the Peritoneum is so transparent that the viscera can be seen, and we can be assured that no mischief, like mortification, is going on.

Inguinal & Scrotal Hernia.

Complete Oblique passes thro' the internal and external rings lodging in the Abdominal canal.

Anatomy of Parts. 1. Integument — 2. Superficial fascia, containing Haller's artery ad cutem Abdominis — 3. Tendon of the External Oblique Muscle, which splits on its way to the Pubis, forming the External Ring — Transverse fibres, called Retinacula — Intercolumnar fascia, or loose cellular tissue of the Spermatic Cord in males or round ligament in females — Internal Oblique — Transversalis — Fascia Transversalis forming the

38 Internal Ring — Infundibula Fascia reflected around the Spermatic Cord — Epigastric artery running between the two rings, nearer the internal — Peritoneum
Two fossae in the Pelvis, divided by a septum formed by what was in the foetus the Umbilical Artery. In the outter fossae Oblique Hernia occurs; in the inner fossae, direct or inguinal Ventro Hernia.
Mode of formation — In the Oblique, the viscus descends through the Internal Ring, usually in front of the Spermatic Cord — When it gets to the Internal ring it is covered by Peritoneum and Infundibula Fascia — on its way to the External, it carries along Peritoneum — Infundibula Fascia — Cremaster muscle — After it passes through the External Ring it has 6 coverings, = 1 Integument — 2nd Superficial fascia — 3rd Intercolumnar fascia — 4th Cremaster 5th Infundibula fascia 6th Peritoneum Tunica Vaginalis Communis = 3 fascia; the Intercolumnar fascia — Cremaster — Infundibula fascia.
Seat of Stricture. In recent and small Hernias, either at the internal ring, or inferior margin of the tendons of the Internal Oblique and Transversalis muscles. In old and large Hernias, either at the mouth of the Sac, or the Sac itself from adhesions. Hence 5 Seats of Stricture.
In Reducible inguinal Hernia the tumour is pyriform with the apex downwards.
Diagnosis. Confounded with Varicocele. Place the patient in a horizontal position, both tumours will disappear — press on the External Ring, and let the patient stand up; the tumour will appear if it is Varicocele — will not if Hernia. Also the tumour in Varicocele feels like a bundle of worms — it is elastic or doughy in Hernia. Retained Testes. There will be only one testicle in the scrotum; also intense pain will arise from a truss on the apparent tumour. Femoral Hernia females usually liable, and the tumour will arise below Poupart's Ligament.
Treatment. Hood's Truss over the Internal Ring if Reducible (if you place the truss over the External Ring, you will press the Spermatic cord against the margin of the ring and emasculate your patient.) Irreducible Ring truss if Irreducible. If unsuccessful resort to the Operation — Instruments required — Scalpel, grooved director — Tenaculum — Probe Pointed Bistoury — Ligature
Pinch up the Integument, insert the director, cut lengthwise do this to every covering till you come to the Peritoneum — Then if it is transparent and you see the viscera sound, and there are no adhesions, you need not cut it; but carry the Bistory under the Seat of Stricture and cut directly upwards, so as not to wound the Epigastric Artery. Break up adhesions, or cut off patches of the Peritoneum, allowing them to adhere to the intestine — Return the gut if sound. If it is purplish or brown, and you do not know whether it is simple Congestion or Mortification; pinch the gut, if it is simple Congestion the blood will return slowly — if Mortified the blood will not return. Return the gut. If it is simply congested. Cut it open and establish an artificial Anus. If it is mortified; If the mortification is confined to small patches, pinch them up, ligate them, and return the gut as in simple

punctures of the intestine.

2. Concealed Inguinal Hernia.= Is a hernia which passes through the Internal Ring, and lodges in the Abdominal Canal, without passing through the External Ring.

The investiments are. 1st Integument 2nd Superficial fascia 3rd Tendon of the External Oblique 4th Cremaster muscle, if the tumour descends low enough 5th Infundibula fascia 6th Peritoneal Sac.

Seats of Stricture = 3. The Internal Ring – The margin of the Obliquus Externus – The Sac itself.

3. Direct or Ventro Inguinal Hernia.= A Hernia which passes through the External Ring alone; leaving the Pelvis by the Inner Fossa, it passes behind the Internal Ring & the abdominal canal.

Investments = 1st Integument – 2nd Superficial fascia. 3rd Intercolumnar fascia of External Ring 4th Conjoint Tendons of the Obliquus Internus and Transversalis – 5th Transversalis fascia 6th Peritoneal Sac.

The Epigastric artery lies on the outside, hence cut upwards.

Seats of Stricture = 2. The External Ring – 1. The mouth of the Sac.

The Truss employed has a slight projection to fit the External Ring. Beware of pressing on the Spermatic Cord.

4th Congenital Inguinal Hernia = A hernia penetrating into the Scrotum. Occurs in children, where the opening between the Abdominal cavity and the Tunica Vaginalis Testis, is not closed before birth. In such a case there is no Peritoneal Sac. But when the opening has been closed, then we find the Septum of Cellular tissue, and the Peritoneum.

Treatment = A Truss immediately, washing the part impinged by the truss, with a Solution of 1 gr. Corrosive Sublimate with 1 ℥ Alcohol; this must be done every day to harden the cuticle, and prevent irritation. If an operation is necessary make the incision as low down the Scrotum as possible.

Merocele or Femoral or Crural Hernia

Def = A hernia caused by the protrusion of viscera through the Femoral or Crural Ring. Females most liable.

3 Divisions in the Anatomy of the Parts.

1st All parts below Poupart's Ligament.

2nd " " in and about the Crural Arch.

3rd " " within the cavity of the Pelvis.

1st The parts of the first division are. 1st Integument 2nd Superficial Fascia containing lymphatic glands, & branches of the External Pudic artery. 3rd The Cribriform fascia = to the Superficial fascia over the Opening of the Saphena vein. 4th Fascia Lata Femoris divided into the Sartorial on the outer, Pectineal on the inner portion. The Sartorial forms a curve called the Semilunar or Haze Ligament. 5th The anterior sheath of the femoral vessels, which is a prolongation of the fascia Transversalis.

2nd The Second Division or Crural Arch = The Space between Poupart's Ligament and the margin of the Pelvis. This Space is occupied by the Psoas Magnus and Iliacus Internus muscles – the femoral nerve, vein and artery – the femoral Ring – the Septum Crurale or fascia propria – The fascias of the Iliacus and Psoas interdigitate so as to prevent any Hernia except

at the Femoral or Crural Ring. as they are attached to poupart's lig.

Boundaries of the Crural Ring = On the inside by Gimbernat's Ligament - Above by Poupart's Ligament - Outside by the femoral vein - below by the rim or Crista of the Pelvis.

3rd Division. Parts within the Cavity of the Pelvis. This cavity is oval in Shape lined with Peritoneum - Then the fascia Transversalis which forms the anterior sheath of the femoral vessels - the fascia Iliaca which forms the posterior sheath of the femoral vessels - Both these fascia pass through the Ring, hence Hernias must come into the sheath they form - The Septum Crurale, or fascia Propria is stretched across the Crural Ring.

Two Arteries must be borne in mind: the Epigastric which runs upwards above the Ring - the Obdurator runs across underneath. Hence to divide the Stricture cut Upwards and inwards against Gimbernat's lig:

Mode of formation = The Hernial Sac pushes the Septum Crurale before it. Passes through the Femoral Ring into the sheath of the femoral vessels, and passes out through the Saphaena or Lymphatic Openings in the Side of the Sheath, forming a double Protrusion.

Investments = 1st Integument 2nd Superficial Fascia - 3rd Cribriform Fascia - 4th Fascia Propria or Septum Crurale 5th Peritoneal Sac. sometimes sheath of vessels added.

Seats of Stricture = 5. 1st The Saphaena or Lymphatic orifices in the Sheath of the femoral vessels 2nd Hayd's Ligament - 3rd Gimbernat's Ligament 4th Mouth of the Sac 5th from adhesive bands in the sac itself.

Diagnosis = May be confounded with 1st Inguinal Hernia (Poupart's lig. is above the tumour in Femoral - below it in Inguinal Hernia). 2nd Bubo (Painful at first - never could be reduced - circumscribed). 3rd Varicose femoral vein (Place the patient in horizontal position - flex the thigh the hernia in both will disappear - place your finger over the Crural Ring; cause the patient to rise. if it is a varicose vein the tumour will reappear) 4th Psoas Abscess (Hectic Symptoms - Pain in the back).

Treatment = the Same as in Inguinal Hernia. In the Operation, always cut upwards and inwards, towards Gimbernat's lig. or break through with a blunt Spatula.

Concealed Femoral Hernia.

A hernia which passes through the Crural Ring and Sheath of femoral vessels but does not protrude through the Saphaena or Lymphatic Openings.

Strictures = 4. 1st Mouth of Sac 2nd Gimbernat's Ligament - 3rd Hayd's Ligament - 4th Femoral Ring.

Investments = 1st Integument 2nd Superficial Fascia - 3rd Cribriform Fascia. 4th Sheath of femoral vessels - 5th Fascia Propria or Septum Crurale 6th Peritoneum.

Umbilical Hernia. Omphalos; Navel:

Def = a Hernial Protrusion at the Umbilical Ring or to one Side of it.

3 Varieties. 1st Congenital, at birth, the Umbilical Ring not being closed 2nd Young persons, at the Ring, the tender cicatrix being broken 3rd Adults, to one side of Ring

Congenital = A Pyriform - Semitransparent tumour - the Apex being the Umbilical Ring.

Investments = Thin Cellular tissue - Superficial fascia - Peritoneal Sac.

That of Young persons, is a flattened tumour, at the Umbilical Ring. Caused by the yielding of the cicatrix.
Investments = Integument - Superficial fascia - Peritoneum
That of Adults. is on one side of the Umbilicus - a large pedunculated tumour -
Investments = Integument - Superficial fascia - Peritoneum -
Treatment of Congenital = Return the contents - push over a fold of the Sac - secure it in position by a a nutmeg wrapt over with muslin - secure the nutmeg by adhesive plaster -
of Young persons = Return the content - secure by an elastic band, with a hemispherical block. Ligature dangerous
of Adults = A Spring hemispherical block.
Operation = Cut through 1. Skin - 2. Superficial fascia 3. Sac - no arteries to fear - But make the incision in the upper part of the tumour, as near to the Stomach as possible - because the cicatrix will be tender, and your object is to have as little weight of the viscera possible.

Ventral Hernia.

Def. = A Herniae Protrusion in the Abdominal Parietes, passing through no Natural Ring.

Pudendal Hernia.

Def. = A Herniae Protrusion, passing through the Internal Ring - the Abdominal Canal - the External Ring, and lodging in the Pudenda.
Treatment = as Truss over the Internal Ring & Canal.

Vaginal Hernia.

Def. = A Herniae Protrusion, lodging between the Vagina and Rectum.
Treatment = Large Ball Pessaries.

Perineal Hernia.

Def = A Herniae Protrusion, lodging between the Vagina and Rectum, and prolonging the pouch to the Perineum, where it becomes a globular tumour.

Artificial Anus.

Def = An opening through which faeces pass, made either by wounds, or sloughing of herniae Tumours.
Diagnosis = A pouch perforated, and two portions of intestines contained. Now if the Intestine is not cut across there is a "Septum" "Eperon or Spur" formed by the folding of the Intestines. This must be got rid of.
Treatment = If recent, apply a soft truss - a diet on soft mush. and the ~~sa~~ continuity of the intestines may be established. If adhesions are firm, old resort to the Operation. which is never necessitated except where the orifice is so high up, as to threaten life by Inanition. The main thing is to get rid of the Eperon. This is done 1st By placing a Silver crutch on the Spur 2nd Dr. Physic passed a silk thread through the lower and upper intestine and ties it loosely outside the wound - this produces inflammation - the effusion of Plasma - the Septum is solidified, and then is to be clipt off. 3rd Dupuytren, sloughs the septum by the compression of Pincers called Enterotomes. Dr. Knox makes apertures in the blades, and cuts all embraced by the orifice: this = Fenestral Enterotomes.

Urinary Calculi

Def = Masses of various kinds of Stones, developed in the Urine. by the Salts in Urine, or by the separation of Sand.

Causes = 1. Predisposing 2. Local. Predisposing = (a) Sex. Male. (b) Race. White rarely the black. (c) Age very young or old. (d) Constitution of a Calculous Diathesis. (e) Climate. Temperate Zone because the equilibrium between the Kidneys and Skin is constantly disturbed. (f) Mode of Life. Ill fed & (g) Lime Stone water. (h) Dyspepsia. Local = Stricture of Urethra. Enlarged P. Etc. Sand will be passed during indigestion, now if the Urine shall remain state without voiding, it will deposite mucus, grains of sand as nuclei. (c) Chronic Inflammation by the effusion of blood or pus as nuclei.

Physical Characteristics. = (a) Size, from grain of mustard seed, to 44 ℥s. taken from Sir. Wm. Ogally. (b) Form, indicates the composition; as the rough, mulberry calculus is Oxalate of Lime. (c) Number, from 1. — 1000.s. + (d) Growth, by accretion around nuclei: either Striated or Laminated — or by agglutination of particles by mucus or Plasma.

Phenomena developing Stone. 1. in Kidney = Deep seated fixed pain in one or the other of the Lumber regions, complicated with some disorder of Urine, such as mucus, bloody after Exercise — pain darting down to one testis, and retraction of the same. You can however never be sure, until an abscess is formed which you can probe and sound. 2. in Ureter = agony — pulse thready — Skin cold — pain shooting from kidney to bladder — retraction of testes on that side. Sometimes vomiting and nausea. 3. in Bladder = Inclination frequent to micturate — Stream suddenly checked — conscious of foreign body rolling about in bladder — mucus, and bloody urine — desire to squeeze glans penis, to allay a peculiar sensation — Constitution undermined by hectic fever. You can never be positive of Stone, except by the "Sound" which is infallible.

condition of Stone in Bladder — 1. Stone loose. 2. Encysted; either in the (wall or pouch) of bladder interfering with the contraction of the bladder: or else Plasma is thrown out on a Mulberry Calculus glueing it fast. 3. Bladder. Encrusted with sand, glued on by Plasma.

Effect upon the Organs = Kidney is absorbed — Dilates Ureter & destroys it. When the urine which was before bloody, becomes suddenly clear with pain: it shows that the Stone is lodged in one of the Ureters blocking it up. In the Bladder, the Stone causes either dilatation or contraction with thickening. Stone in the neck of bladder dilates the Urethra.

To Sound. = Never sound a patient just come from a journey, or in pain. Prepare him by warm baths — Anodyne injections — rest — demulcents. Sound him generally with a full bladder, and in every position. The sound should have a short curve, and perfectly smooth.

Treatment = 1. Remove the diseased state of Urine. Urine should be examined by Spec. Gravity — heat — microscope — tests for acids and alkalies. Acid-Urine turns blue Litmus paper to red. Alkaline Urine turns yellow Tumeric (?) paper to brown. By the microscope, a drop of Urine dried on a Containing Oxalate of Lime, presents Octohedral, double square, dumb-bell crystals. Crystals arranged in laminae, and aggregated masses = Uric Acid & vel. Alkali. Stellated, losenge amorphous crystal = Phosphates.

Muddy chocolate Urine = Billious disorder.
For Oxalate of Lime, give Nitromuriatic Acid. For Acid deposites give alkalis & vice versâ. Soda - Potash - Lime -
(b) Palliate the sufferings. Give Opium - Demulcent drinks - Infusion of Erigeron Philadelphicum, (Fleabane) 1/3 with 1 pt. Water warm baths - rest - diuretics - For attacks of Gravel, Ether 2iiz - bleed - hot baths - [Opium + Terpentine] - When ropy mucus and sand are voided, introduce a double catheter, and inject Nitric Acid gutt. X. in 1. pt. of barley water, about once a week.
(c) Remove the stone. By the Urethra, if small; this by Sir. Ashley Cooper. Aberle of Berlin, first prepares the patient 3 days before and by Flax Seed tea, and Henbane. Covers the Perinium with a Plaster of Belladonna.

Lithotomy.

1. . . . . Cutting on the Gripe or Celsian Operation. applicable. when the prostrate Gland is Enlarged - Manner. Pass two fingers up the rectum, feel the stone pull it down to the Perinium; Cut down for the Prostate gland.

2. . . . . The High or Hypogastric Operation.
History = Invented 1475 by Cullen.
Anatomy of Parts. Integument - Superficial fascia - Mass of fat and cellular tissue - Pyramidalis Muscles - Cellular tisse - Bladder - (no Peritoneum there).
Modus Operandi = Cut above the Symphisis Pubis, in a place where the Peritoneum does not descend.
Instruments = Scalpel - Gum Elastic Catheter - Stilletto Sound - Mesh of Silk or Cotton, or a Second Catheter.
Distend the bladder - Shave the Pubis - Cut through the Integument & Superficial fascia - feel the bladder. Introduce per Penem, the stilletted catheter when you feel it at the wound, Protrude the stilletto this will serve as a director - Incise the bladder, pinching it fast up between your fingers. to prevent the escape of Urine. Extract Stone, draw off the Urine by catheter up Penis - also either insert a Catheter or Mesh of Silk in the artificial orifice, which shall act as syphons, and prevent the infiltration of Urine - this must remain about 3 days when Adhesions will be formed around the orifice Utility = Where Prostrate Gland enlarged - Dr. Geo. McC.

3. . . . . The Simple Lateral Operation.
History. Invented by Frere Jacque a monk - called Lateral from having 1/2 the Prostrate divided.
Anatomy of Parts = Integument - Superficial fascia - Inferior Perineal fascia, dense and fibrous - Perineal centre consisting of layers of muscles as Sphincter Ani Perineal Transversalis - Erector Penis - accelerator Urini - Cut between the Erector Penis and accelerator Urini. through the Transversalis; avoiding the bulb of the Urethra. Cut through the Perineal fas-

cia or Triangular Ligament - through the membranous portion of Urethra, muscles of Guthrie & Winslow and cutting through the left half of the Prostate. Four Arteries endangered. 1. Superficial branch of Perineal 2. Transverse do. 3. The Plexus of Urethral Bulb 4. Internal Pudic. The chief hemorrhage arises from the vesicle plexus of the bas fond, and is venous. Operation. Instruments = Scalpel - Staff, with a gutter on the Convexity - Fenestrated Forceps - Syringe to wash out the bladder - Dupuytren's Canula to stop vesicle Hemorrhage.

Fill the bladder naturally or artificially; tie a bit of tape around the Penis. This is to seperate the anterior from the posterior wall of the bladder. Tie the hands to the feet - Open the thighs and fasten them. Introduce the staff - Press it firmly by an assistant against the Symphesis Pubis - Make a free incision, from below the Symphesis, to a point between the left Tuberosity of the Ischium and Anus. Cut down to the staff, then either place a Gorget or a Scalpel in the groove, and cut into the bladder. withdraw the staff, take out the Calculus; introduce a catheter per Penem Et per artificial opening.

Dangers of the Operation. 1. Peritonitis, especially in plethoric, fat men. 2. Extravasation of Urine if you cut out of the Capsule of the Prostrate Gland. 3. Sloughing 4. Incontinence of Urine from paralysis of the muscles at the Prostrate Gland; treated by Strychnia, Galvanism cold water Etc. 5. Fistula Urinæ in Rectum or Perineum. Catheter in bladder - cauterize by a probe of Silver dipt in strong Nitric Acid - blister to Perineum - Cauterize a fistula in Rectum with the actual cautery at red heat.

The Bilateral Operation.

4. Both halves of the Prostrate Gland are divided. History = mentioned by Celsus; perfected by Dupuytren. Operation. In lieu of cutting between the Erector Penis and Accelerator Urinæ; we cut between the Bulb of the Urethra and the Perineal Transversalis. in the central point of the Perineum. Instruments = Scalpel. Staff with short grooved curve. Double Lithotome Cachet. Introduce the staff - Cut by semi lunar incision across the Perineum, between the Bulb of the Urethra and Transversalis, until you come to the staff. Carry the Lithotome with its concavity corresponding to the convexity of the staff; when the bladder has been Entered, remove the staff, turn the Lithotome to have the convexity above, open the knives and withdraw the instrument in the axis of the inferior Strait; it will cut the Urethra and both halves of the Prostrate Gland.

5. Recto-Vesicle, or Median Guide by the finger, a bistoury up the rectum, and

cut through the centre of the Prostrate, the Trian-
gular Ligament & the Sphincter Ani.
Dangers = A Recto Vesicle Fistula.

Lithotrity.

Def. = A method of grinding the stone by drilling,
whilst in the grasp of a 3 bladed forceps.
History = Discovered 1813 by Ruthine: but as
the Varieties of the bladder had been perforated
and grasped by the forceps; Heurteloup &
Amussat substituted

Lithontripsy.

Def. = a method of reducing the Stone by crushing.
The instruments for this purpose have the
Male blade small, the female, fenestrated.
they were worked by windlass, or Pinion & Rachet.
Prepare the patient for the operation by the daily in-
troduction of a Sound. you will require a Syringe to
distend the bladder - a hollow Catheter - Rachet and Pinion
Crusher - a Scoop - a Small pair of forceps.
Never operate. 1st when the Stone is Oxalate of Lime, &
rings loudly on impact, for the Sharp pointed pieces
will inflame the bladder. 2nd Large Prostrate, for then
you cannot reach the bas fond. 3rd when the Urethra is
Stricturred. 4th when the bladder is irritated by the intro-
duction of the Sound, and the patient suffers from Chill
and hectic fever afterwards.
When the Stone is in the Urethra, or Prostrate gland.
Examine per Rectum. Push the Stone back into blad-
der, or else Cut down upon the Gripe.

Stone in the Female.

Rare on account of the shortness and extreme dila-
tation of the Urethra, so that calculi cannot lodge
in the bladder.
Do not operate on an adult female, as Incurable
incontinence of urine will be the result.
A child is operated upon by dividing the Urethra
and neck of the bladder by an upward cut.

Amputation.

History. Very ancient - but Petit is the first who
simplified and brought the operation to its Pres-
ent Perfection. Amputation in contenuity, not
allowed in malignant growths, but in con-
tiguity.
Def = "Clopping off" of a member however situated.
Classification = 1. Circular. 2. Flap, single or double. 3. Oval.
Time = 1. Primary performed as soon after accident as re-
action sets in. 2. Consecutive. Postponed until
fever has set in and past. Müller says, ampu-
tate during the fever, do not wait for it to subside.
Consecutive amputation more fatal than Primary.
Place = 1. In Continuity of limb, when you cut through
the Shaft of a bone. 2. Contiguity of limb, as when you
amputate through a joint.
Circumstance. 1. Operations of necessity 2. Operations of
choice, or complaisance, as to remedy deformities.
Shot. 1. Operation of necessity from character of wound.
2. Operations of Election. as in small members you

I can with impunity amputate in contiguity or continuity. In large operations you must try to operate in continuity, or else you will have a conical stump, a tender cicatrix – necrosis of cartilages & bones.
Preparation of patient. = A slight cathartic the day before – Ether – generous diet – no ~~animal~~ food. administration of Opium.
Accidents accompanying the Operation = 1. Air in veins. Now veins from adhesions in tumours are frequently pulmonous, in such a case you must tie it before you sever it. A peculiar hissing noise indicates the introduction of air; immediately apply a syringe and suck it out. 2. Hemorrhage. Elevate the limb before the operation to drain off the blood. In chronic diseases, veins are varicose and should not then be tied – use compresses of lint & cold water. 3rd Fainting: Stop the operation until he is resuscitated. 4. Convulsions. done away by Ether.
Secondary Accidents = 1. Secondary Hemorrhage of two kinds. Simple oozing, and profuse bleeding. In simple oozing. let the dressing remain, but apply tourniquet, cold – Elevate limb. In profuse bleeding, apply tourniquet open the wound, and ligate the vessel. 2. Inflammation of the Stump. Owing to Sympathetic fever, at your second dressing, you will find flaps red, everted and gaping at the edges, with the effusion of Serum. Take away every bandage pressing on the parts, and apply cold water dressing – bleed – purge; for Erysipelas is coming. If, when in board ship or in hospital, you perceive the flaps red at the edges, with blue or purplish spots, hospital gangrene has set in: Give antimonials – generous diet – warm water dressings – do not bleed, but raise the system. If sloughing intervenes, cauterize with strong Nitric Acid.
Other Accidents = 3. Conical Stump. due to the surgeon's carelessness, he must compress the muscles and keep them over the bone, by proper bandages; or else the integument and muscles will retreat, exposing the bone.
4. Abscess and Sinus of Stump. When Inflammation of the Stump occurs, with the effusion of pus; the pus is liable to infiltrate in the tissues of the limb making a Sinus. Compress the Sinus – Introduce a probe dipt in Nitric Acid. or else cut the Sinus open, and stimulate the parts. For this reason, surgeons usually insert a piece of lint at the most depending portion of the flap, to allow the escape of any matter.
5. Necrosis, or Caries of the Bone. due, either to trimming the edges of the bone, or leaving it exposed to the air. Symptoms = dull, gnawing pain, increasing at night. Give Opium at night – antiphlogistics. Amputate the bone if it spreads; if not spreading, wait until the bone is dead, and it will readily be detached.
6. Cystitis = Burning Sensation in bladder – frequent micturation – urine becomes turbid on standing – this is harmless: inexplicable; requires but little attention.
7. Phlebitis = Inflammation of the veins, either from Ligation or natural consequences:
Symptoms = furred tongue – thirst – fever – Rigor, followed by intense reaction – Stump swollen – veins hard – delirium. Tincture of Acanite – active Antiphlogistics – A Blister all round the Stump – Do not bleed, as Phlebitis will be caused at the seat of depletion.

8. Metastatic abscess. Difficulty of respiration if the abscess is situated in lungs. — pain in head if in brain. Etc.
Tinct. Aconiti. apply blisters and powerful counter-irritants.
9. Gangrene. Usually hospital Gangrene — Strong Nitric Acid.
10. Hectic fever. change of air, residence, tonics, bark, etc.
The healing of the stumps. Flaps united by the insodular tissue of Delpech. Now it is an undoubted fact that scurvy, and other maladies attack large cicatrices first: hence persons with large cicatrices not fit for long sea-voyages.
Tender Stumps = Either from want of a fleshy cushion — from a button formed on the divided nerve, to be nipped off — from Exostosis of bone producing sharp points — from tissue which will not heal.

1. Circular Amputation.

History. Celsus. improved by Louis & Desseaux.
Object. To get sufficient flap to cover stump.
Calculate the flap. Take the circumference of the spot to be amputated; the diameter is easily found from it.
Operation = 1st Divide the integument & muscles attached to it 2nd Cut down to the bone 3rd Detach the muscles from the bone by scraping.
Shave the hair — dry the part — elevate — let the limb project over the edge of the table — tourniquet applied, not tightened until the very moment of amputation. In sawing the bone, always commence with the heel of the saw, not the point, that is pull towards you the first sawing across. apply the retractor ▭○, to pull the muscles up before sawing the bone off. Look first for the femoral artery and Profunda: Do not close the stump until all hemorrhage stops. In closing the flaps, if the amputation is high up the thigh, close in the transverse direction of the length of the limb, Else the Psoas magnus & Iliacus internus, will tilt the bone up to one side. Elsewhere close the flaps in any direction.
Dressing = wait until hemorrhage ceases — a few sutures. Lint dipt in water — oiled silk — a roller bandage, commencing somewhat above the stump, so as to compress the muscles, and prevent their retraction: the roller is to be passed around stump, then again to the limb, which is to be fastened on the pillow, or bed, so as to make it parallel with the sound one.
"Mütter," on account of the tediousness, does not recommend the circular Operation, except in large fleshy thighs, where you wish the arteries cut directly across, so as readily to find and secure them.
The first bandage usually left until the third day.

2. Flap Operation.

Single Flap.

History = discovered by Lowder — 1696
It is used in the lower extremeties, as forearm, and leg. where you have to cut two bones through.
The flap must be the full diameter of the limb, not half as in the circular.
With a Catlin, cut from the margin of one bone, to the margin of the other: where they are most superficial. Then introduce your Catlin as near to the bones as possible (on the side opposite to your first cut) cut along the bones, until the flap is long enough, then cut out from the bone.
Introduce the knife between the bones, cut through the interosseous ligament — apply a retractor with three tails, one tail to be pushed between the bones; draw the muscles well up — saw off the bones, commencing on the

the larger bone of the two, and commencing on the smaller one. before the larger one is cut through. Feel the rim of the bone to cut off if necessary any spiculi. In dressing this, as well as any other stump: introduce a piece of lint in the most depending corner of the flap, to serve as an outlet for any matter which may be secreted.

(b) Double Flap.

History = Invented by Ravaton. the best method. Done with a double edged Knife called Catlin. Somewhat similar to the preceding, but has two oblique cuts. The cone at the first dressing, looks conical, but soon rounds off, making a soft, flashy Cushion. from absorption.

3. Oval Operation.

Resembles the double flap: but the flaps are rounded off and not triangular: it requires a scalpel, and is more tedious.

Fractures.

Def. = Solution of Continuity by breaking across the osseous fibres.
Causes = 1. Predisposing. 2. Efficient. The first class subdivided into Local and General.

(1.). Local predisposing causes are,
a. The situation, most exposed and superficial, as the scull.
b. The function of the bone. E.g. Radius & clavicle in lieu of Carpus.
c. Some local disease. E.g. Ulceration, tuberculous, cancerous bones.

The general predisposing causes are,
a. The Diathesis of the Individual. E.g. Fragilitas Ossium.
b. The disease. E.g. Chronic Syphilis, Rheumatism, Gout.
c. Age. E.g. Old bones have a preponderance of Phosp. of Lime.

(2.). The efficient causes of fracture are,
a. Muscular Action. E.g. Spasms fracture even the os femoris.
b. External force direct and indirectly applied. E.g. Counterstroke.

Classification = 1st Division depends on the relation of the Solution of Continuity to the axis of the bone. Thus we have,
(a). Transverse fractures.
(b). Oblique, or obtuse fractures.
(c). Longitudinal, or Parallel fractures.

2nd Division is based on the appearance of the fracture.
(a). Fissures.
(b). Stellated fractures.
(c). Depressed, or indented fractures.

3rd Division, depends upon the displacement of fragments.
(a). Longitudinal displacement, or shortened fracture.
(b). Lateral displacement, or displacement in the diameter.
(c). Rotary displacement: or displacement in the circumference.
(d). Angular displacement, or in the direction of the bone.
(e). Impacted fracture, or one fragment of one bone, driven into the cavity of the other fragment.

Causes of displacement are,
1. External violence, directly or indirectly applied.
2. Weight of the body in falling.
3. Weight of the limb.
4. Muscular Contraction.

The 4th Division is based upon the degree of injury done to the parts around the fracture, and to the bone itself.
(a). Simple fracture. = bone broken across, with no Solution of Continuity of the integument.
(b). Compound, or Open fracture. = bone broken off, and lacerating, or protruding from the integument.
(c). Complicated fracture. = artery, or nerve injured. dislocation of one part of bone, and fracture of the other.
(d). Comminuted fracture. = bone broken into several fragments: usually indicating amputation.

Symptoms of fracture. = 1. Rational, not worth any thing. 2. Sensible or Physical signs, which last are,
(a). Change in natural form of limb.
(b). Unnatural mobility of the parts at seat of fracture.
(c). Change in the length of limb: always shortened.
(d). Crepitus of the bones rubbing: Stethoscope employed.
a fracture is preternaturally mobile, a luxation, rigid:
a fracture has crepitation; luxation has not.
Diagnosis. = 1. Fractures confounded with luxations (vide Supra)
2. Bent bones. have a regular curve, they can be readily straightened, but relapse to their original curve. have no crepitation. 3. Partial fracture. the angle, like regular fractures, is acute: you can straighten the limb and it will not return to an angle. there is no crepitation. 4. Sprains; have no crepitation, but a smooth elastic tumour — they also induce sickness at the stomach and fainting.
Prognosis. = Is modified by
(a). Size of bone. Os femoris the most unfavorable.
(b). The number of muscles attached to the fragments: thus the upper portion of Os femoris, from the action of the Psoas magnus & Iliacus muscles, is thrown out of position at every dressing, rendering it difficult to manage.
(c). Seat of fracture. Near a joint, or involving a joint is bad.
(d). Relation of bones to great cavities. E.G. fractures of Skull, Pelvis, bad.
(E). Injury to the soft parts. E.G. Pulpified muscles the worst.
(F). Nature of force. E.G. Force directly applied, bruises the integument.
(G). Direction of the fracture. E.G. Oblique. Shortens the limb.
(H). Age. The younger, the more favorable.
(I). Health of patient. Syphilis, Scrofula, must be treated by mercury. Iodine, Phosphate of Lime: or else no union.
(J). Season. Summer, induces restlessness, bed sores, and inflammation in the parts.
(K). Extremity involved. Upper extremity better than lower.
(L). Several fractures. E.G. A fracture of the thigh, with one of an arm, must be treated antiphlogistically: as fever and reaction will set in: establishing a false joint, or sinus.
(M). Degree of injury to bone. When comminuted, if there is no pulse below the fracture, amputate.
(N). Existence of Luxation. reduce first luxation, then coaptate.
Formation of Callus. = two kinds. 1. Provisional, which unites the fragments for a time. 2. Permanent Callus, which unites the fragments permanently.
Several stages. = 1. Effusion of blood, Serum, and Plasma.
2. Absorption of Serum, and red corpuscules, leaving a pinkish mass of the consistency of white of an Egg.
3. Mass becomes vascular, the Plasma becomes organized, and is converted into cartilage; forming a distinct pin in the cavity of bone, and a ring around the fracture.
4. Ossification in the centre of the Cartilage.
5. Ossification between compact portion of fragments.
6. Absorption of Provisionary Callus, with the restoration of the cavity of the bone.
Agents = 1. Periosteum: not essential however, therefore do not saw off the ends of a fractured bone, because it is stript of its periosteum. 2. Vessels of the soft parts near. 3. Bone itself. 4. Internal Periosteum. 5. The Absorbents which remove the Provisionary Callus, and model the bone.
Union of Flat Bones. Entirely different from long bones.
1. Effusion of Blood, Serum, and Plasma
2. Organization of Plasma, into a strong ligament or membrane, rarely into bone.

Strength of bones after fracture.= Long bones will usually be stronger after the cure: except when the fracture is through the nutritious foramen; there all above the foramen will waste away.

Treatment.= 1. Remove the patient on a shutter, so that no vessels be injured by the motion.

2nd. Reduction effected by Extension, counter extension which should be kept up seven hours – relaxation by Aether Opium – depletion: – Coaptation. If the bones are locked & the muscles will not relax, then saw off the Ends of the bone. If in a Compound fracture, a bone pierces the belly of a muscle, cut down and sever the muscle. If however the fracture is Simple, make the incision subcutaneous and at a distance from the seat of injury.

3. To prevent displacements; we use the many tailed bandage of Scultetus – Roller bandages – Splints of seasoned wood; – never to be placed in contact with the naked skin.

4. Ward off inflammatory symptoms, by Tart. Antimony – by Digitalis. But rarely bled. Diet after the accident should be for 3 days, Spare.

5. Spasm & Pain to be obviated in the usual manner. if the pain continues, examine your dressing, it may be too tight: A pulsatile, throbbing pain indicates too tight a bandage: hence it is proper to leave some point of the limb exposed, to see if it is livid, cold, or numb –

6. Protect all parts liable to pressure. Harden them by applications of Hydrarg. Bichlorid. Corrosiv. grs. V to Alcohol ℥j. Bed sores will else be formed.

7. Inspect daily your bandage: it may be loose.

8. When Phlyctenae or Bullae form simply open them with a fine needle. They are hydemless, caused by a Stasis of the capillaries, with the effusion of Serum.

9. When Suppuration ensues; immediately open at the most depending point, and at a distance from injury.

10. Religiously guard the limb from the weight of body for Secondary fracture may occur: or the Provisional Callus may be prematurely absorbed.

11. After Convalescence, restore the natural rigidity of the limb by oleaginous frictions – warm douche – galvanism.

12. Contrary to the opinion of many Eminent Surgeons set the fracture as soon as Compatible.

General methods of treatment.= There are many, although recognized by many, except the Splint and bandage, and a position in which the muscles will be relaxed.

1. Horizontal position: as in fractures of lower Extremities.

2. Semiflexed ". not recognised by Elliotter.

3. Starch bandage, made by dipping the roller bandage in white of egg, glue, and Alcohol. Velpeau used Starch or Dextrine. Now this "Permanent" dressing is unphilosophical, for if the limb is swollen in the first place upon the resolution of the swelling the bandage will be too loose: on the other hand if there is no swelling at the time of the dressing, then after it sets in: the limb will run great risks of mortification by compression.

4. Limb suspended. Used for cooling limb – may be employed as a pleasant variety, not however at the first dressing.

5. Mayors Handkerchief system. useful for clavicle – None of the above systems are general methods. but each has it's advantages in particular cases.

6. Splints and bandages are after all the simplest and best form of treating every fracture that is accessible to external action upon the part.

Compound Fractures.

Def.= Solution of continuity of the soft parts, with a fracture of bone.
Causes.= 1. Fragments of bone driven through the skin 2.
2. The integument may be wounded by the same blow.
3. Sloughing may open the integument: as where the muscles are pulpified.
4. An abscess or sinus may require to be opened.
5. Pressure on prominent portions may induce ulceration.
Dangers.= 1. Immediate nervous shock, as in protrusion of bone. when compound from comminution.
2. Inflammation and fever:
3. Hectic fever: when sloughing occurs, causing a compound fr.
4. Tetanus: when near a joint, almost invariable result.
5. Sec. Hemorrhage: To be be feared when artery is crushed by pressure.
Question of Amputation. Look to the nervous shock: if the patient is cold, clammy: if reaction will not set in: if after reaction, no pulse is found in arteries below the seat of fracture: particularly the main artery, amputate with a clean conscience. Vide Syllabum.
Time of Amputation = In Primary Amputation, take off the limb as soon as reaction sets in. In Secondary Amp. as soon as you have determined to take off the limb, because hectic fever is wasting the powers of patient; do not wait for fever to subside, but amputate immediately: the results are surprisingly happy.
Treatment to save the limb.=1. Make a firm, soft couch - a fracture box long enough to come above the knee joint - place a pillow therein - a oiled silk thereon - place the limb on the pillow, close the sides of fracture box - let two assistants, one above, the other below the seat of fracture, make extension - the surgeon, with his thumb and finger, sets the fragments by some known landmark: as spine of tibia: fasten the foot well padded, to the foot of fracture box, by means of the Stirrup bandage. No other splints or bandage to be used. Close the wound by adhesive plaster, painting the edges with Collodeon. If heat or fever set in, give anodyne with Neutral mixture internally: and apply lotions of cold water or Lead water with Laudanum: Treat the case like a simple fracture, visiting the patient daily. Scultetus bandage.
2. Where the integument is badly wounded, and the bones protude, and cannot be reduced = Divide soft parts - Twist away the pieces - Saw off the ends of the bones, if necessary. - Close the wound with adhesive plaster, although you expect suppuration, for you wish as much union of soft parts: Place the limb in the bran dressing fracture box, wedge down bran all around, and over the limb - apply Stirrup bandage: When suppuration and fever set in, there will be pain in the limb: examine the plaster if bulging out, lift up one corner of it, and let the pus escape all the while: it will wet the bran, swell it - thus compress the limb, and squeeze out the matter. When suppuration has ceased - change the bran - this is effected, by putting in fresh bran, as fast as you take out the old with a spoon. When the soft parts are united, substitute the fracture box with pillow and oiled silk, and use Scultetus bandage.
The Callus of Compound fractures = Is different from Simple Frac. masses of loose bone become organised in the centre of the Provisionary Callus - these become living, and are united to each other, and to the extremities of the bone. Hence the limb will usually be deformed = being larger and a little shorter.

Irregular Callus.

Causes = The Surgeon's fault. or a wilful patient.
Propriety of Operating = depends on various circumstances, as
1. Duration of the injury, the sooner the better.
2. Degree of functional injury: if he can use the limb, do not touch it.

3. Practicability of relief without danger. Never touch the thigh.
4. Size and location of injury.
5. Age of patient: the younger, the better. Table
6. The health of patient. Constitutional diseases are unfavor-
7. Season of the year. Cool weather, the best.
8. The existence of disease in the soft parts.

Means of remedy employed = 1. Gradual Pressure, and extension of the limbs. If the Callus is under 2 months duration, yet soft, and yielding this method may succeed.
2. Rupture of the Callus: by snapping the fore arm across the Knee. Turning the radius on the Ulna. Etc. Then set the limb over again, and treat it as simple fracture.
3. Resection of bone. Never resect the thigh.

Pseudarthrosis, False Joint.

Def = Non union of the Edges of a fractured bone, by bone.
Varieties = 1. The Callus, from its arrestation, becomes cartilaginous. 2. Fragments united by ligamentous bands as in fractures of Patella - Olecranon - Acromion.
3. United by Cellular tissue, making the limb mobile.
4. Bones rounded off - tipped with cartilage - covered by Synovial membrane and capsular ligament.
Causes = Vide Syllabo.
Symptoms = Extreme mobility of parts, with inability to use the limb.
Diagnosis = Easy - except in the thigh bone, where the bond of union may be too short, to allow the bone to be bent.
Prognosis = Favorable in good constitutions, but is a slow & tedious process. Persons using malt liquors, are bad.
Indication = To excite inflammatory action in the seat of injury, for the redeposition of new callus.
Treatment = 1. Splints, and entire rest, will prove exciting by causing congestion of the capillaries from Stasis.
2. Compression. by pushing the lower fragment, against the upper. The desired effect will be produced.
3. Exercise; which frequently causes friction & compression.
4. Dr. Physick's Seaton. A needle armed with a tape is to be passed, not transversly, but from above downwards perpendicularly, between the fragments, the tape must remain lodged there until the callus is reformed.
5. Dieffenbachs method. holes are bored in the extremities of each fragment, and ivory pegs driven in. Singular to say, the ivory pegs will be corroded, and partially absorbed by contained action upon them.
6. Resection. The end of the bones are sawed off, making the limb shorter. This is a serious operation.
7. Section of muscles, proposed by Dieffenbach. In transverse fracture of the Patella, the fragments will be separated by intermediate ligaments. The parts above the superior fragment, are divided by a Subcutaneous incision, at a distance from the joint. This fragment is to be pushed to its fellow, and kept in situ by compresses.

Particular Fractures.

I. Ossa Nasi.

Diagnosis = Easy before swelling sets in, and if there is no Emphysema from laceration of the mucus membrane lining the nostrils. There will be in fracture - depression of the bones - pain - crepitus - hemorrhage.
Treatment. 1. Of Simple fracture. Elevate the depressed bones by cylenders of wood, bougie Etc. inserted in the nostrils - model the bones with finger and thumb - usually apply no bandages, as the Swelling will keep the fragments in situ. 2. Of Emphysema, puncture the integument at a distance from the seat of injury; let out the gass, and close the punctures. 3. compound fractures, as a cut. Stick up the nose, and insert quills

open at both ends, and covered with greased lint, into each nostril. Support the nose with a piece of plaster perforated for the nose.

II. Ossa Malarum.

Causes = Sabre cuts — striking the cheek bones on projecting pt. The cheek will be pulled down by the action of the Masseter muscle. Push the fragment, by main force, to its proper position, and keep it there by compresses of a conical form. The lower jaw, must be kept immovable — person therefore to be fed on slops.

III. Ossa Maxillaria Superiora.

This fracture is usually compound, lacerating the mucus membrane.

Causes. Extraction of teeth; direct force.

When the Alveolar process is fractured with several teeth: place the teeth and fragments in situ, and use the lower jaw as a compress. The patient must not chew or move his jaw for three weeks.

When the fracture is Compound. Place over the lacerated soft parts a roast fig, or poultice of Slippery Elm.

When the cavity of the Antrum is involved. use strongent antiphlogistic measures.

IV. Os Maxillare Inferius.

Varieties =. 1. at the Symphesis. 2. Chin. 3. Between the angle and chin. 4. Coronoid. 5. Condyloid.

Symptoms. = Displacement — Profuse Hemorrhage from maxillary artery, which will cease on adjustment of the fragments — Pain — Sometimes Paralysis of dental nerve.

Treatment. 1. fracture at the symphesis, only occurring in children — use the supporting bandage, and a lateral spring compress made of Padded Steel.

2. When the chin is isolated by fracture: the Milo-hyoides and digastric muscles will pull it down, which must be overcome: take martins bandage, or make a Pasteboard box for the chin, apply a supporting bandage, beginning at the occiput carrying it obliquely over the head, under chin, then carried back obliquely to the occiput: then brought directly round the chin. Avoid taking out the teeth, even if quite loose.

3. Between the angle and chin: The Masseter muscle will pull back the Posterior fragment: the Milo-hyoides and digastric muscles will pull the anterior fragment down. Place a clamp of tin or silver over the seat of fracture, this will retain the fragments in situ, then apply the fig 8 bandage.

4. Coronoid. There will be crepitation on chewing, from this process being surrounded by the temporal muscle — there will be little or no displacement — Keep the jaw closed and supported.

5. Condyloid Process. Intense pain in front of the ear with a depression: and a prominency caused by the retraction of the process by the Pterygoid muscle. Pull the jaw forwards in situ, and retain it there. by cylindrical comp. In fractures of children and old men, where the alveolar processes are wanting: apply cork to the vacancies.

The jaw in all these fractures must be immovable, hence nourishment can only be taken in Slops: by injecting it in a tube placed behind the molar teeth.

V. et VI. Os Hyoides & Thyroid Cartilage.

Causes = grasping by the throat: blows, Etc. Etc.

Symptoms. = Difficulty in breathing — Pain — outward deformity.

Indication. = To relieve the difficulty of respiration: by pulling the tongue forwards by its root — by inserting a tenaculum and elevating the pieces — Bleed — blister to prevent subsequent inflammation. If the depres-

sion does not interfere with respiration, let it alone no bad symptoms will be the result.

VII. Os Sternum.

Varieties = Transverse, longitudinal, a crack - a slit.

1st. Indication. To keep the ribs and sternum at rest, allowing respiration by the diaphragm and muscles.

Treatment. 1. If a simple crack, place a bandage around the chest, and use stringent antiphlogistics, as the sternum is easily liable to inflammation.

2. If the fracture is transverse, the patient will have suffocation threatened, by the joints sticking into the anterior mediastinum. If it is a child, favor the distension of the chest - place him supine on a cask - let him take a full breath - bandage, and use antiphlogistics. If the patient is an adult, place a bandage around the depressed bones, unless respiration is interfered with in that case, use all measures to elevate the fragments - use your fingers, tenaculum; and if these fail, convert the simple into a compound fracture.

VIII. Ossa Costarum.

Liability = Depends upon the age; the older the more frequent.

Ribs usually broken. = The true Ribs.

A Carriage may pass over a child, and flatten his chest - no ribs will be broken; an adult would fracture his.

Varieties. A front blow, as that of a fist: drives the fragments inward. Side blows, or pressure of a crowd drives the fragments outward.

Complications = Hemoptysis - Emphysema either of the Subcutaneous Cellular tissue, called "External": or of the Serous Coat called "Internal". - Empyema - Pleuritis - Laceration of the intercostal artery, as in compound fracture. A Phthisical person, for he cannot endure the slightest compression on the thorax.

Symptoms. 1. Sharp, cutting pain at any movement of the chest - Place your hand upon his chest, let him breathe hurriedly, great pain & crepitation will be the result.

Treatment = 1. Of Simple fractures: The first indication is to keep the chest at rest, and allow the action of only the diaphragm. If the fragments are depressed, place a compress the anterior extremity of the rib, and another at the posterior extremity; and tie a roller bandage tight over the whole: pressure at the extremities will elevate the fragments. If the fracture is elevated, place a compress over the external projection, then bandage. Give opiates for the pain - Let him take a full inspiration before applying the bandage - Bleed if plethoric.

2. Of Wounded Lung by the sticking in of the fragments, indicated by Spitting blood. 1st Indication = Elevate the bones. Insert a tenaculum, at the superior margin of the rib (to avoid the intercostal artery), and pull the fragments in position. If there is internal hemorrhage, let him faint &c. Apply bandage - Give anodyne for cough.

3. External Emphysema, or Emphysema of the cellular tissue - the thorax will be distended - Let it alone, unless great inconvenience is experienced from it.

4. Internal Emphysema, or that of the Serous tissue. Lung becomes shrivelled, and forced up to its base - the chest on Percussion, sounds like a drum: is tympanitic. Introduce a trochar, at a distance from the seat of injury, and tap the thorax; else suffocation will ensue.

5. Hemorrhage of the intercostal artery. Carry in the wound a Probe Pointed bistoury, and sever the artery. Or else, must lint - twist it round; a button will then be formed - Pull on the handkerchief, and you thus have an internal compress, directly on the artery. Do not tap the chest to let out the blood.

IX. Clavicle.

Liability = greater than any other bone: save the humerus. the centre of the bone is usually broken: either from direct violence: always in consequence of a fall on the hand.
Symptoms. = Angular deformity - diminution in breadth, increase in the length of the shoulder.
Diagnosis. = Easy. The outer fragment is dragged downwards by the weight of the arm. Inwards, by the action of the Pectoralis major, and Latissimus dorsi. Forwards by the action of the Levator Scapulae. The Sternal fragment usually remains stationary, unless tilted up by the Sterno-Cleido-mastoideus.
Indications. = 3. Carry the arm Upwards, Backwards, and Outwards.
Treatment. = 1. Desault's bandage. Strip the patient - at him Extend both arms - Place a pad under the axilla of the wounded shoulder, fastened by strings over the other shoulder - Lift the arm up and down like a pump handle - bring it to the side of the chest - adjust the fragments. Commence one bandage at the sound axilla, and pass it around the injured arm and chest. Take another bandage, commence at the sound axilla, and pass it over the opposite shoulder, then under the elbow then over the sound shoulder. Etc. until two triangles are described: one on the breast: the other on the back. All the 3 indications are carried out, but the objections are 1st. You have to strip the patient 2. The bandages will relax and slip. 3. Mammary Glands may be absorbed from compression. 4. The seat of injury is covered up.
2. The Handkerchiefs of Mayor. One is made into a triangular sling which supports the Elbow, and passes over the opposite Shoulder; The angular point is to turned over and pinned to make it snug. The second Handker. is passed around the chest confining the arm. A pad is above, is to be placed in the Axilla.
3. The Pensylvania Hospital bandage. A pad as before. a collar on the sound shoulder, a sling holding up the elbow, and fastened to the collar - a roller bandage around the chest confining the arm.
When the Sternal fragment tilts up. A broad band of adhaesive Plaster Pbssing over it, and fastened to the breast and back, will keep it in Site.
Prognosis. Should be very cautious. As they will be deformity, unless you pay careful attention.

X. Scapula.

Parts liable to fracture = 1st Acromion. 2. Inferior Angle. 3. Body of the bone. 4. Coracoid process. 5. The neck. 6. Spine.
1. Acrimion Process. Arm longer than usual - patient cannot raise the arm - pass finger along spine of Scapula, you will come to a depression on the seat of injury - Shoulder flattened - no crepitation, unless you elevate the arm, and bring the fragments in contact.
Diagnosis. Told from luxation because the depression in luxation is beneath the acromion. Sprain has no depression.
Prognosis. = Unfavorable; from want of arterial blood in the fragment: from lack of sufficient cellular tissue for the deposition of callus: the union will be Ligamentous.
Treatment. = By a Sling, support the arm so that the fragments shall be in contact: Place a pad between the elbow and chest to relax the Deltoid muscle - bandage confining the arm to the side - adhesive Plaster over the seat of injury.
2. Inferior Angle. There will be no displacement of the frag. because the Infra Spinatus, and Sub scapular muscles cover the whole bone - The fracture will therefore be a simple fissure. A bandage around the chest to confine the muscles.
3. The Body of the bone. The inferior fragment will be dis-

placed downwards. Push back the lower fragment, apply a compress in front of it - roller bandage - sling.
4. Coracoid Process. fractured by force directly applied or by muscular contraction. The Biceps, Coraco-brachialis & Pectoralis muscles will draw the anterior fragment downwards - a movable tumour in front of the axilla - patient cannot cross his arm over the chest - Shoulder as usual. Treatment. Place the palm of the injured arm on the sound shoulder - bandage firmly - use compress. Etc.
5. The Neck. The arm is lengthened - shoulder flattened. a hollow under acromion - a tumour in axilla.
Diagnosis. A subluxation of the humerus, exhibits these same characteristics. in luxation however the arm is rigid - in fracture movable: in luxation, the deformity cannot readily be reduced: in fracture it can.
Prognosis is quite favorable.
Indication = Keep the arm at a proper level by a short sling - a pad under the axilla - bandage. Etc.
6. Spine of Scapula. There is no displacement: for the Supra & infra spinati muscles keep fragments in situ.

XII. Humerus.

The head.

Liability. = Of rare occurrence - sometimes the concussion in old people causes its atrophy from interstitial absorption.
Diagnosis of Simple fracture. It very obscure - no displacement of the shoulder - pain increased by pressure - liable to be mistaken for sprain, hence always best to be on the safe side and consider it a fracture.
Treatment. = a rectangular splint [L] padded for the axilla - strict antiphlogistics, because the bone is cellular and liable therefore to take on inflammation - apply leeches etc.
Impacted fracture. No crepitation - shortening of limb - enlargement of shoulder - intense pain - use rectangular splint - Vide Robert Smith on fractures of joint.
Compound fracture. Close external wound - rectangular splint. antiphlogistics - Cut out pus - Use passive motion about the second week.
Comminuted fracture. Do not amputate - take away the pieces - saw off the end of bone if necessary - push it up and support it on the Glenoid cavity - look for ligamentous union.

Anatomical Neck.

Crepitation on rotation - intense swelling - attach humerus and forearm to a rectangular splint - antiphlogistics in this as above: the bone being eminently cellular.

Surgical Neck.

Def. = That portion of Shaft between the attachments of the Pectoralis Major, Latissimus dorsi; and the greater tuberosity.
Signs. = Displacement: Upper fragment rotated outwards - lower frag. drawn inwards, and upwards by the Pectoralis and Latissimus - Shortening of the limb.
Treatment. = Two assistants to exert extension and counterextension - coaptate - bandage from palm, up to shoulder: leaving the fingers, the thumb, the elbow exposed - apply the rectangular splint, with three other straight splints - one being longer so as to come below the condyle - pad every exposed spot, and every depression, before you apply the last roller - Support the hand simply, by a sling - The dressing need not be removed for ten days - provided it does not relax. At every dressing, make passive motion of every joint in that arm and hand: to prevent anchylosis.

Shaft above insertion of Deltoid.

2. If fracture is between the insertions of the Latissimus dorsi, Pectoralis major; and Deltoid: the displacement is reverse to the above. The upper frag. is carried in - the lower fragment is rotated out. Use the same dressing as above - but let the rectangular splint be more cushioned where it goes into the axilla.

Diastasis or Separation of the Epiphyses.

Occurs only in children and that very rarely.
Diagnosis. = Position of the whole limb carried slightly back.

a projection below the acromion process - grasp the head of the bone, and you can rotate the shaft without moving the head - no crepitation - loss of voluntary motion. Prog: cautious; because Cartilage unites with difficulty - Treatment: use as before - bandage - rectangular Splint - another bandage - sling - In addition pass a bandage over the shoulder and under the elbow, so as to bring the fragments together.

Shaft at its Middle.

There is no displacement in the transverse fracture: In oblique fracture, the Biceps: Brachialis internus: Triceps act upon the fragments, rendering it very difficult to keep them adjusted. Arm Shorter; 3 Splints one rectangular Prognosis. In transverse, favorable. In oblique, bad. In Oblique use the crutch of Mr. Longsdale.

Shaft above Condyles or Inferior third

Forearm is shortened - a prominence above the elbow - The Indication = to overcome the action of the Triceps, and paralyse the muscles. Put your knee in the elbow, press hard while two assistants are extending and counter extending - Bandage - two rectangular splints for the lower 1/3 of the shaft and forearm - assisted by two other straight Splints - Etc. or Hewsons Bent Splint in front.

Condyles.

Both, or only one may be fractured. When both are fractured, the joint widens by compression, from the Olecranon pressing the condyles outwards - the condyles will be movable, decidedly

Prognosis. Unfavorable, from anchylosis, & curvature.

Indications. = 1. To keep the Olecranon process from contact with the condyles. 2. To keep the condyles under strong Lateral pressure. or Hewson's Bent Splint

Treatment: = 2 Rectangular splints at first dressing. about the tenth day, increase the angle, more and more at each dressing until the arm is straight. Then retrace these steps, making the angle more and more acute, until forearm is flexed on humerus. Use passive motion for every joint -

Compound fracture, commonly attended with deformity - bandage employed is Bonn's Splint. Keep Olecranon out of the joint - suppurating Sinuses. when suppuration ceases take off Bonn's and apply rectangular Splints.

XII. Bones of the Fore-arm.

Radius: more often broken than any other bone in body. fractures occur in 1. Head: 2. Surgical Neck: 3. Centre 4. Lower Extremities 5. Separation of Epiphyses.

1. Head. caused by counterstroke, as falling on the hand. Symptoms = motion causes deep seated pain at the joint - Crepitation on rotation - no distortion or shortening. Diagnosis. Confounded with Sprain: err on the safe side. Roller bandage from palm up: rotate the limb to a position between Supination and Pronation - apply a splint on inside - antiphlogistics - Passive motion. rectangular

2. Surgical Neck: = that portion of the bone surrounded by the coronary ligaments.

Symptoms = Loss of voluntary motion - pain little below joint. upper fragment remains stationary; lower frag. rotated - crepitation - hand between Pronation & Supination.

Treatment. act upon the lower frag. by keeping it turned out. Supinate the hand with palm upwards - You cannot apply a first bandage, because it will narrow the interosseous space. Therefore place a padded splint above.

3. About Centre: Symptoms. Lower fragment drawn towards the Ulna, by the Pronator quadratus, diminishing the interosseous space: upper frag. slightly tilted up -

Indication. Preserve the integrity of Osseous space.

Treatment. Two Splints padded with a ridge running

in longitudinal axis, for interosseous space – one splint in front: the other behind – No first roller bandage applied – Splints must be wide enough to prevent the roller from acting on the bones, and thus closing the interosseous space – hand midway between Pron. & Supin. At the second dressing apply Spoon splint on back with a short splint, ridged in front coming up to heel of hand. this will give freedom to hand – Use passive motion.

4. Lower Extremity = the largest, but weakest portion of the radius from its cellular character.

(a). Colley's fracture, or transverse fracture: ½ inch above articulation

Symptoms = Lower fragment dragged inwards towards the Ulna, causing interosseous space to disappear = upper frag. carried forwards: Prominence on the back of the wrist – depression on the inside – hand slightly flexed.

Treatment. = Grasp the hand (not fingers). Make extension in line of displacement, the deformity will at once disappear – Crepitation on rotating the hand. Keep the hand bent towards the outer condyle, apply Bond's Splint for Colley's fracture ▭ on the Palmer side; and an extra Splint on the back, in a muscular subject. The advantage of Bonds splint lies in the freedom of patient to grasp anything.

(b). Barton's fracture, or Oblique fracture: radius is Split Oblique

The first carpal row slips up between the bones fractured Apply two straight splints: and two compresses on each side of the seat of fracture, dressing on the interosseous space.

5. Separation of Epiphyses. Children alone liable to it.

hand bent – deformity – loss of motion – pain.

Diagnosis. = Place the finger and thumb on the two Styloid processes; rotate the hand, and these processes will be found to move with the hand. Use same dressing as in Bartons f-

Fractures of Ulna

1. Transverse of Olecranon.

Symptoms. Forearm flexed on arm – disappearance of the Elbow prominence – movable tumour on the back.

Indication. = Straighten the forearm – act upon the frag– upon the interposed muscles – aim at short ligamentous union, by keeping the fragments close together.

Treatment. = Desault's method – viz. Roller bandage from palm up to joint – Knead and pull the integument up so that it may not intrude between the fragments – continue the bandage, leaving the joint exposed by figure 8. – Paralyze the Triceps muscle: Apply a short Splint, on the ~~Middle~~ Front of arm – Supine the hand.

Prog. = Unfavorable from anchylosis: therefore use passive motion: if Anchylosis is unavoidable, take off the straight splint, and substitute a flexed one: as it will be more convenient for patient to have an anchylosed flexed arm.

2. Coronoid. Caused by Counterstroke: muscular Contraction.

Prognosis. = unfavorable from ligamentous union; and difficulty in retaining the pieces in juxtaposition.

Diagnosis. = Easy before swelling sets in: There is extension of the forearm by the Triceps Extensor because the Brachialis anticus, its antagonist, is laxed: Movable tumour on Elbow.

Indication = Approximate the fragments: – Paralyse the Brachialis

Treatment. = Roller bandage to paralyse the muscle: then a jointed splint placed at an acute angle, with the forearm flexed on arm for 3 weeks: – this angle is to be increased.

3. Shaft, or Lower Extremity: Angular displacement: – a depression at the seat of fracture, from the action of the Pronator quadratus: there is no shortening of the limb, because the Radius stops further displacement of fragments: The Ulna margin of the hand inclines towards the Ulna:

Indications. = To paralyse the Pronator quadratus: To keep the hands towards the Radial margin

2 ridged Splints: Compresses over seat of fracture: a comp-

ress to keep the palm in natural position.

Both Bones.

Prognosis of Simple fracture.= Unfavorable: for we have to contend with angular deformity produced by the approximation of the bones from the action of Pronator quadratus: and with anchylosis from deposition of Provisionary Callus, cementing the two bones and rendering them immovable with each other.
Treatment.= Extension and counterextension by two assistants: knead the muscles between the fragments: place the hand seat of injury: two splints with conical ridge: A Compound fracture. Inflammation and Suppuration unavoidable, therefore expose the seat of injury. comfrey on dorsum manus
Treatment. Place a loop around the neck: pass two strips of bandage through as slings: apply a long padded, oiled silked splint, on the side opposite the wound: Roller bandage above and below the wound just tight enough to prevent lateral displacement: support the splint by the two strips: cover external wound by adhaesive plaster: apply lint dipt in cold water: or laudanum with lead-water: as soon as the external wound heals, apply the dressing for simple fracture: Passive motion: Rotation.
This treatment is called "Elyponarthecia".

XIII. Carpal Bones.

Usually Compound: Crepitation: no displacement:
In Simple fractures, the chief danger arises from inflammation of the articular surface: Splint on palm: leech give Tartarised antim. etc. if inflam. is threatened.
Compound Fracture. Be cautious how you amputate: never when the Radial or Ulna artery is sound:
Treatment: a carved Splint, padded, and covered with oiled silk: close the external opening: apply warm water dressing until the patient recovers from the nervous shock; then use cold water; or Lead water + Laud. Bore holes in the splint to allow the escape of the water: Look out carefully for Traumatic Tetanus. If suppuration intervenes use warm water dressing: when wound is healed adopt the common straight splint.

XIV. Metacarpal Bones.

Liability.= the rarest in surgery: usually are simple. the angular displacement is in a direction opposite to the blow. Use a splint on palm: and compress on the projecting fragments.
If a Palmar thrombus is formed, from the pointed bone wounding an artery, compress either the Radial or Ulna, and observe which causes the thrombus: cut down and tie the artery or even both if necessary.
Use means to absorb the clot: turn it out if inflammatory symptoms intervene - use compresses! etc.

XV. Phalangeal Bones.

For the Indicator; Impudicus; Annularis; Auricularis; apply bandage; 2 splints, and another bandage. The splints to be placed on Palmar and Dorsal surfaces.
For the Pollex, use but one splint, and that on the dorsum, or back of the thumb. 3 band of adhes. Straps -

XVI. Os Sacrum.

From force directly applied: Patient is paralysed in his lower extremities: for their slightest movement causes pain. Pressure of the hand over the seat of injury causes pain. no external displacement occurs.
Prognosis. Unfavorable, from the spongy texture, and extreme vascularity of the bone; Inflammation and Caries are liable.
Treatment. Do not attempt the reduction of any distortion, but let it be anchylosed in the fractured position -

Place patient on his back: apply a bandage around his hips: Tie the thighs and legs together: flex the thighs on the pelvis, and the legs on the thighs: maintain this position for the first two weeks: as the parts are paralysed evacuate the bladder twice a day — Rectum twice a week: Protect the Sacrum by the softest cushions. Pillows under knee joints. In Compound fractures, as the object is to see the seat of injury. Place the patient on his side: wedge a conical splint between his thighs and legs. water dressing of Lead.

XVII. Os Coccygis.

The result of force directly applied — hardened faeces — Parturition.
Symptoms. = Great agony from motion of the Glutei muscles. fragments movable — displacement will be opposite to the blow.
Prognosis. = Unfavorable, from neuralgic pain which will last for months, preventing sitting.
If the displacement is lateral, and the victim a male. Employ the same treatment as in the Sacrum — setting the displacement alone.
If the Patient is a female — or the fragments are driven into the Rectum or Vagina: oil the finger, introduce your finger in Rectum, draw the fragment in site and maintain it there, by keeping your finger in rectum until swelling intervenes: or else you may introduce a bladder in rectum, and inflate it.
Keep the thighs and legs fastened, and flexed on abdomen. attend to the urinary and alvine evacuations.
In External displacement, apply compress & T Bandage.

XVIII. Os Innominatum.

Situation of fractures. = X Head. X.
1. "Centre of bone, or Ilium broken across." = The patient will not move the injured thigh from pain: Run your finger along the Crest of the Ilium, pain will increase at the seat of fracture: move it backwards and forwards between finger and thumb, crepitation will be the result.
Treatment. = horizontal position: thighs and legs fastened together, and flexed on the pelvis: no bandage.
2. "Sampson's fracture" = a piece of bone broken out of the Ilium, and lodged in the flank: causing a movable tumour: Use an oblique bandage, and another around the pelvis — relax muscles of the trunk.
3. Tuberosity of Ischium: it is not displaced by muscular force: Place the buttock on several pillows: flex the thighs and legs: keep the seat of injury covered with lint dipt in cold water: the swelling keeps fragments in site.
4. Pubes. Prog. favorable: no dressing: position as above.
5. Fracture causing separation at the Symphesis and Sacro-iliac junction. The limb on the injured side will be shortened from an upward displacement of that side of the Pelvis: Keep the fragments in contact by a bandage around the Pelvis: do not attempt to reduce the deformity if persistant.

XIX. Femur.

Seats of fracture. 1. Head: 2. Neck: 3. Trochanter: 4. Upper third: 5. Centre: 6. Lower Third: 7. Condyles.
1. Head. caused by force directly applied: pain in center of joint, increased by motion: no crepitus is usually audible, hence we use the Stethoscope at the joint and rotate the limb: no displacement.
Prognosis. favorable: unless interstitial absorption shortens the limb: Use straight splints, and the same treatment as in fracture of head of Humerus.

2. "Fracture of the Neck; or fract. within Capsular ligam".

Varieties = Simple; Compound; Comminuted; Impacted:

Causes. depend on the angle of junction between the long axis of the neck and shaft of bone: Now in children this Angle is obtuse, almost in a straight line with the limb; hence the liability in children is extremely small. But as we grow older the angle becomes more acute, approximating to a right angle, which predisposes adults to simple fracture. Especially in women is this true, in whom from the breadth of the Pelvis, and right angled junction: the slightest accidents will fracture, as a misstep; turning in bed. etc. This fact assists the diagnosis as there is no bone in the body which is broken from such trifling circumstances.

Symptoms. = Generally, shortening of the limb, from the action of the Glutei muscles: The foot turned outwards from weight of the limb: No crepitation, unless you pull the limb to its natural length, and rotate.

Diagnosis. Often confounded with luxation of Femur on the dorsum of the Illium: Distinguished thus: in fracture the limb can easily be straightened; - not so in luxation. In Luxation, on rotating the limb, the head of femur palpably describes the arc of a circle; - in fracture the shaft revolves on its own axis.

Prognosis. Unfavorable if the sufferer is old, or a woman: very unfavorable if the fract. is wholly within the Capsular Ligament, as it will only unite by ligament: because, 1. Unless the Capsular Ligament is ruptured, excessive secretion of Synovial fluid separates the fragments, and dissolves the Plasma: 2. Upper fragment relies for nutritious artery on the single, small one, of the Ligamentum Teres; the arterial blood is therefore insufficient in quantity: 3. The difficulty of keeping the fragments in site, by any mechanism: 4. There is no Nidus for the deposition of Callus because there is little, or no Cellular tissue.

When the Capsulary ligament is ruptured, or the fracture is partly within and without the Capsule, the prog. is favorable.

Treatment, of an aged female, where Ligam. union is sought.

Straighten the limb, until the distance, as measured from the Ant. Sup. Spinous Process to the Internal Malleolus, of each limb is precisely the same: Flex the limb, on a double inclined Plain, of the fracture box: Maintain this position for 2 or 3 weeks: you will be obliged to draw off her urine with catheter, and she will have to defecate on a "draw sheet" or in a bed pot: Now, for variety, take the fracture box away, and move her about in bed for two weeks, after she has been kept 2 weeks in a horizontal position without the fracture-box: At the sixth week, she may walk on two crutches with a high heeled shoe: In a few months she will throw away the crutches and walk on high heeled shoe with a cane; the limb being weaker and a little shorter.

Where bony union is looked for; apply the apparatus for the shaft.

3. Fracture of Trochanter major: in transeverse fracture there will be a depression at the usual prominence of the hip: - there will be a movable tumour caused by the Glutei muscles pulling up, and lodging the upper fragment on the dorsum of the Illium: voluntary motion is lost: the Surgeon however can make the limb perform its functions: no crepitus from the separation of the fragments.

Prognosis. = Unfavorable, from non bony union, because 1. There is no cellular tissue to hold the Callus: 2. It is difficult to keep the fragments in apposition: 3. The arterial blood is derived alone from the adjacent tendons.

Treatment. = Limb horizontal: pull the fragment down, and compress the Glutei muscles by bandage around Pelvis: Straight splint.

4. Fracture of the Shaft just below the Trochanters.

Symptoms. = Limb is shortened: thigh increased in size: there is usually displacement from the shortening of the limb, and from the superior frag. riding over the inferior, due to the action of the Iliacus internus, and Psoas magnus muscles on rotating the limb there is distinct Crepitus.

Prognosis. The limb will usually be shorter than the other.

Treatment. = 2. 1st Sir Astley Cooper, by whom the limb was flexed over a double inclined Plane (with Side Splints) to make the angle more acute, the patient was propt up by bolsters. Matter objects to this method, for reasons to be stated.

2. Duffy tren's modification of Desault's bandage, with the addition of a transverse bandage, passing just below the counterextending band, to paralyse the Psoas and Iliacus: this bandage is described below in "Centre".

5. The Centre of the Shaft. Usually deformed, because you have to contend with muscular contractions of the thigh and of the leg.

Diagnosis. = Shortened limb: increase in size: Crepitus.

Treatment. depends on the character of the fracture. In Simple fracture there are three methods.

1. Mr. Pott flexed the leg on the thigh and the thigh on the pelvis: Objection. = while we thus relax some muscles, we stretch others. (with Side Splints)

2. Sir Astley Cooper, & Sir Charles Bell recommended the double inclined Plane: Objections = (a). The flexion of the ham will tilt up the lower fragment: (b). Short Splints get relaxed: (c). Anchylosis: (d). Patient will suffer from numbness at the ham: (e). The counter extension is made by the weight of the body; hence the counter extending point is movable, and shortened limb occurs. (deformity is the result of this apparatus: it is only used for some cases, requiring no pressure on the vessels from pressure on the vessels)

3. Desault's method, adopted by Mütter: where the patient is in horizontal position: limb straight.

Operation = Prepare a low, narrow bedstead: a hard mat on a firm unyielding bottom: & Stretcher with a round hole, through which the patient defecates: Long splint reaching from axilla to below the ancle: shorter splint, reaching from Perineum to below ankle: two short splints: two extending and counter extending bands, made of muslin cylenders, stuffed and covered with chamois leather; the stitch not passing through, but half through the leather: Lay strips of tape in order on the bed: Place the wider of the two shorter splints, so that the back of thigh shall lie on it: cover these with splint cloth: Place the patient on these: apply the axillary splint, and perineal splint, after wrapping them up in splint cloth: tie the strips of tape around: apply the extending band to heel with Barton's hitch: fasten the counter extending band, passing obliquely under perineum: Make Extension by grasping the ankle, not by the band, when by admeasurement from the ant. Sup. Spinous process, to internal malleolus, the limb is of right length; fasten the two bands: Pass a transverse bandage around the loins: Slide the last splint between the tapes and anterior of thigh: Place a perforated pad under the heel.

Sometimes it will be difficult to lengthen the limb properly, from resistance of the muscles; but constant Extension will in a few hours, or even days fatigue the muscles, so that you can at length stretch the limb. Do not be in great hurry to do this.

The chief difficulties of this dressing lies in excoriations on the ankle from the extending bands; these take them off and apply long strips of adhesive plaster along the leg terminating below the sole to form a loop.

In Comminuted fracture. In addition to the above dressing: steady the fragments by Scultetus's Strip bandage.

In Compound fracture. We have to suit our bandages and dressing to the position of the wound: There is usually little muscular contraction to contend with, because the muscles are paralyzed from the shock.

When the wound is posterior: place a splint in front and one short one on each side, leaving the wound exposed: lie on wounded side: pledget of lint dipt in blood: a poultice when suppuration sets in: If bed sores are threatened, put the patient on his back, and place the limb in a fracture box of a single inclined plane. funestrated so as to expose the wound.

If the wound is in front or on side, use funestrated splints or fracture box, or Desault's method modified:

6. The inferior third. Deformity from overlapping of the fragments; due to the action of Semi membranosus; Semi tendinosus and Biceps: There we use Desault's; carefully wedging the limb between the splint, to prevent any motion of the ham.

7. "Condyles" Unfavorable, from inflammation of joint. apply Scultetus bandage around the joint, which is to be continued down to the ankle, if swelling is apprehended: splint reach from Tuberosity of Ischium, to below the ankle for the accommodation of which it is funestrated; the leg is thus extended on the thigh, but the thigh is to be flexed on pelvis so, as to have the limb elevated: Use strict antiphlogistics: passive motion after 4th week.

Patella.

causes.= Muscular contraction, as for instance in jumping; the Quadriceps femoris strains the knee cap: force directly applied is another cause.

Diagnosis of Transverse.= the joint is flat in lieu of being prominent: Two movable tumours: loss of vol. motion:

Indication.= Paralyse the Quadriceps femoris.

Treatment. Straighten, and elevate the limb: pass a bandage from the heel over the toes up to the loins: cut two slits in it, for the finger and thumb of Surgeon: Commence another bandage at the foot, and wind it over the first, until you arrive at the joint: pass finger, and thumb through the slits; grasp the fragments, and bring them in situ: pass an oblique turn above the joint: to paralyse the quadriceps: make fig. 8 turns around joint, and expend the rest on the thigh: apply a splint of sheet iron well padded reaching from tuberosity of Ischium, to below the heel, for which it is funestrated: fasten it with the first bandage. antiphlogistics: limb elevated: passive motion.

Prognosis unfavorable as far as bony union is concerned; as it usually unites by ligament: and the patient shall wear a laced stocking of B.C. Everett No 4 N. 9th St.

Comminuted fracture is more favorable, because it unites by osseous deposite.

Compound frac. Do not amputate: close the wound by bringing the edges together: or if too scanty, make a plastic operation, by incisions on either side, and push up the integument: Do not pass the stitches into the capsule.

XXII. Bones of the Leg.

Oblique fracture of tibia involving the knee joint: symptoms. Crepitation: danger from inflammation, and anchylosis. Use Scultetus bandage; single inclined plane, as in the Patella. This is the only one fracture of the lower extremities requiring an inclined plane.

Fract. of the Tibia anywhere above the Lower Third. The Fibula serving as a Splint there is no shortening: Place the limb in a fracture box, on an oil cloth which is placed over the pillow: the foot is strapped down to the foot board for extension: the weight of the body is sufficient to cause counterextension: The indication here is to prevent the heel from being too high, or falling too low; hence run your finger along the spine of the tibia every day; if there is a projecting point the heel has either fallen, or risen too much and you must remedy this. Keep him in the fracture box for 3 weeks; then use the Starch bandage, and let him walk about on crutches with his foot "sling" over his neck, so as not to bend the Knee. Prog. is favorable.

In fract. of Inferior 3rd: Generally the fract. box is all that is necessary; but sometimes the foot is obstinately inverted, and you will have to use the splint for the Lower 3rd of Fibula, placed on the outside. Here the Prog. is not so favorable.

Fract. in the Upper 2/3 of Fibula: The Tibia serving as a splint there is no shortening; sometimes difficult to detect from the mass of muscles, and swelling: Run your finger over the bone, crepitus will occur at the seat of fract. the fracture box will be the only dressing necessary. together subsequently with the Starch bandage as above.

Fract. of Lower 1/3 of Fibula: Broken by a sudden twist: Symps. = Foot turned on its inner edge and everted: Internal lateral ligaments ruptured: Sometimes gives great trouble from eversion of the foot and subluxation. Sometimes the fract. Box will be sufficient; yet the laceration of the ligaments usually require more. Use Smyth's method. 1. Strip the limb. 2d Place on the inner edge of the leg, reaching from the Knee to just above (not below) the internal Malleolus, a thick pyramid. pad with the base at the malleolus [ ]. 3d over this apply a Splint reaching below the foot: 4th Bandage this splint & pad from the Knee downwards, on getting to the seat of fract. make the next turn of roller below it, not covering the fract. by bandage, 5th then carry the the roller over dorsum of foot, & turn the foot inwards by binding to the extremity of the Splint. 6. Keep him in this painful position for 4 or 5 days, until plasma is evolved & the swelling subsides, then put him in fract. box: then Starch B. Prog. usually unfavorable from eversion of the foot; hence be carefull of this peculiarity.

Luxations.

Def. = That injury by which the head of a bone is thrown from its natural cavity.

Causes. = 1. Predisposing. 2. Proximate.

1. Predisposing. = 1. Preternatural length of the ligaments of a joint: as the Knee joint: which we remedy by two transverse bands, with lateral straps, imitating nature. 2. Congenital malformation: as too shallow acetabula, or too small head of the articulating bone. 3. Paralytic limbs. 4. Spontaneous luxation from disease, as Coxalgia; Interstitial absorption: Ossific deposites on the condyles.

2. General Predisposing. = Preternatural laxity of the whole ligamentous system. Age. The old and young exempt.

3. Local Causes. (a.) External Force. (b.) Muscular force, as luxation of the inferior maxillary, in yawning. No bone can be luxated when it retains its natural position with the trunk. the position of the head.

Classification. 1. Based on degree of displacement. as

(a.) Premitive; in which the head of the bone, remains in the unnatural position it first assumed.

(b). Consecutive; in which the head of the bone, abandons the position of its first displacement: causing two luxations.

2. Based on the degree of displacement.

a. Complete Luxation: thrown entirely out of socket: diagnosis very easy: reduction more advisable than

b. Incomplete Luxation, or Subluxation: the head rests on the lip of the socket: diagnosis difficult: reduction easy.

3. depends on duration of accident. 1. Recent. 2. Old Lux.

4. depends on degree of injury to adjacent soft parts & bones.

a. Simple. No external wound: only laceration of ligaments.

b. Compound. Lesion of integument communicating to joint.

c. Complicated. Nerve, artery, or vein torn across.

Symptoms. 1. Rational. 2. Sensible. First work nothing. Rigidity of parts &c. Vide Syllabo.

Prognosis. depends on.

a. The joint involved. the smaller the more favorable - except the thumb.

b. degree of displacement: c. duration: d. adhesions filling the cavity: e. Constitutional disease, as Strumous diathesis subsequently induces white swelling in the once dislocated joint. f. Direction the bone takes.

Pathology. Soon after accident we find, the capsular ligament torn - muscles infiltrated with blood - muscular fibres torn: bone displaced. If ten or more days have elapsed since the accident, the wounded parts will be healed, the muscles their natural appearance. In six or more weeks the cellular tissue, or even cartilage are formed from adhesions of organised Plasma; binding the arteries, nerves, or veins in such a manner that any attempt to reduce the luxation might rupture them. After months have elapsed, the cavity of the socket will be filled up: the head of the bone, if resting on a muscle will remain unchanged, if lying on and in contact with a bone, it will be flattened by interstitial Absorption: sometimes a ledge of bone, shoots up from Periosteum forming an artificial socket: false joints more or less occur in time.

Treatment. Indications. = 1. If you find the patient faint, sick; prostrated; muscles relaxed. slip the bone in situ 2. If he is well, courageous, you will have to use

extension and counter extension by assistants, or by Jarvis adjustor. The extension and counter extension should be of equal force, and in the line of displacement. The extending band, so as not to compress adjacent muscles, should be placed on the limb in connexion with the wounded one; as the ankle for the hipjoint.

In Reduction, we are resisted by muscles: by orifice of the muscle into which the head has slipt: by the shape of the joint, as ginglymus which is the worst: by the interlocking of the bones as the head of the femur on the lip of the acetabulum: by the interposition of a tendon with, or without a sesamoid bone: adhesions.

Preparation of the patient. Indication = to prostrate him by 1. Ether: 2. Venesection: 3. Bath at 110°: 4. Ant. et Potass. tartras: Myodiatomy, to be performed, by subcutaneous incisions, when the tendon gets between the bones: you frequently have to divide the lateral ligaments of the thumb, before reduction.

1. Inferior Maxillary.

Liability, is great from the looseness of the capsule.

Causes. = 1. Age; confined to adults: children and the very old from the angle of junction being extremely obtuse, are not subject to this accident: 2. Sex; women most liable: 3. Preternatural elongation of Processus vaginalis, and Styloid process. 4. Muscular contraction. 5. Violence.

Varieties. = 1. Complete Luxation of both condyles: 2. One condyle displaced: 3. A Subluxation, or slipping forwards of the movable articular cartilage:

Treatment of 1st. Symptoms = Mouth partially open: increase of Saliva from pressure on the parotid: prominence in the cheek: depression in front of the ear: Temporal muscles on the Stretch. — Wrap your thumbs in Hand'chief: Press on the molars of each side, grasping the chin with the fingers: Press down the posterior of the jaw: pull the chin forwards: as motion begins to take place, slip your thumbs to one side, of the teeth, as the jaws return with violence: If the patient is maniacal, introduce two blocks of wood between the molars: pull the chin forwards and upwards. Apply the bandage for fractures: keep the patient on broth.

2 Of single displacement. Symptoms. Mouth twisted to one side: open: depression and prominence only on one cheek: same treatment as above.

3. Subluxation. By pressing on the jaw, and keeping it separated for a little time, the cartilage will slip in.

Cracking jaws due to chronic inflammation; cured by keeping the jaw at rest, applying a blister for two weeks: if due to preternatural length of the cartilage, it is difficult to cure; give iron; cold water baths; blisters.

6. Clavicle.

Sternal Extremity.

Varieties. 3. Dislocation 1. forwards: 2. backwards. 3. Upwards. Downward dislocation cannot occur, unless the 1st rib is free.

1. Forward Dislocation. caused by the shoulders being violently thrown backward: Shoulder of injured side is shortened: arm is rigid, and hugs the side: the clavicle rests on the Sternum.

Prognosis. Easy to reduce: difficult to maintain in situ.

Treatment. Place patient in a proper position, on a low stool or floor: assistant on sound side: Surgeon's duty, to make extension of the wounded shoulder backwards: when the

head of the clavicle arrives at its socket, by slipping off the sternum; bring the shoulder forwards: place the bone in situ, a strip of adhesive plaster over it: a compress over that: pad under the axilla: Keep the shoulder upwards and forwards by the slings used in fractures of the same bone.
2. Dislocation Backwards. Symptoms. No tumour but a depression in front: shoulder carried forwards: difficulty in respiration: Very difficult to reduce: In extension pull the shoulder forwards, when the bones are disengaged: pull the shoulder backwards and keep it there by figure of 8 bandage. If respiration is interfered with, and the dislocation cannot be reduced, resect the bone: the union will be either cartilage or bone.
3. Dislocation Upwards. make extension downwards, and outwards. Pad under axilla: &c.

Scapular Extremity.

Varieties. = 2. 1. Dislocation upwards. 2. Downwards.
1. Scapular Extremity Upwards. Capsular ligament is broken: levator muscles pull the bone upwards.
Prognosis. will be unfavorable because the new capsule will be lax, weak, and less strong. Therefore the indication is to obtain as short a union as possible.
Treatment. Shoulder to be maintained upwards by a short sling: compress on the bone to keep them close together: pad under axilla: Strap and buckle passing over shoulder & elbow.
2. Scapular Extremity Downwards. Depression at the acromeon process: Very difficult to reduce: pull the shoulder away from thorax: pry the head up with your thumb: if reduced maintain it by a compress between Coracoid & Scapula.

3. Head of the Humerus.

Liability = very great. from the loose capsule; mobility of the parts; its muscular power; weakness of ligaments.
Varieties. = 1. Primitive downwards luxation of bone in axilla: 2. Consecutive Forward: 3. Consecutive Backwards: 4. Partially upwards and forwards, as Subluxation. 5.
The acromeon prevents luxation directly upwards.

1. Downward Luxation.

Def. = Primitive luxation, lodging the head of the bone in the axilla: it can only occur when the long diameter of the limb is oblique to the direction of the glenoid cavity. The head usually lodges on the inferior costa of the Scapular.
Symptoms. 1. Shoulder flattened: 2. An unnatural fossa under acromeon: 3. Rotating ball in Axilla: 4. Arm lengthened: 5. Eversion of Elbow from the side: 6. Loss of voluntary motion, with rigidity of the parts.
Diagnosis. Confounded with fracture Cervicis humeri, but albeit the other symptoms are identical, this fracture has no rigidity; no lengthening of arm; but has crepitus. Confounded also with luxation of long head of the Biceps; here the arm is either turn out or in: no flattening of shoulder: a rigid cord on the inside of arm. Confounded with atrophy of a muscle from a blow, called "Sweeny."
Treatment. General Indications = 1. Give fixedness to the movable scapula: 2. Relax the muscles, as Deltoid & Supra-Spinatus: 3. Draw the head of the bone to its cavity.
General Methods. (a.) Simple elevation of the arm, while the patient is prostrated by the shock. (b). Lift the bone away from the side, lift the head whilst arm is abducted (c.). Mr. White of Manchester. Fix the scapula by placing the fingers and thumb firmly on each side of the shoulder; abduct the arm, extend it give it an elevated rotation; the advantage of this manoeuvre is that thus it flexes the Deltoid and Supra Spinatus; but stretches the Latissimus dorsi, and Pectoralis Major.

(d.). Take off your boot; Place a roller bandage, in the axilla, sufficiently long to extend across; since the chief hazard lies in rupturing some axillary artery, tense from adhesions; place your heel, on the bandage, make Extension in the line of displacement; when the head is disengaged and yields, bring the arm over the body. (C.). Pullies, and 3 bands; 1. Extending band fastened by a wet roller bandage to the wrist. 2. Transverse band, over the shoulder and across the breast obliquely, to fix the scapula 3. Counter extending passed round the chest obliquely and fastened to some firm support. (F.) Jarvis adjustor. Pull the head as much against the thorax as possible. (S.). Myodiatomy by Subcutaneous incisions, as dividing in head of Biceps. After reduction always support the limb for 2 or 3 weeks.

2. Consecutive Forward.

The head of the bone is displaced into the axilla, from there it is carried backwards, and lodged under the clavicle.

Symptoms. The arm is carried away from the side, and backwards. Put the patient on his sound side: pull the bone into the axilla, then do as above.

3. Consecutive Backwards.

Def. Bone lodged on the dorsum of the scapular.

Symptoms. Flattened shoulder: rounded tumour beneath the spine of the scapular: arm shortened:

Treatment. When by extension and counter extension the bone has got as far as the inferior costa Scapular; lift the humerus, and roll its head off into the axilla; or else it will then be locked:

4. Subluxation Upwards.

Def. The bone, slips up and rests on the lip of the cavity.

Symptoms. Arm shortened a trifle: no space to insert a finger between the Acromeon, and head of the bone. The shoulder is more prominent.

5. Dislocation of the Biceps Tendon.

From excessive twisting of the arm, the long head is thrown out of the groove, and lodged on ~~the~~ of the tubercule: the capsule binding it down is lacerated: arm turned either in, or out: no flattening of shoulder: rigid cord on the inside of the arm.

9. Luxation at Elbow-Joint.

Directions of displacement = 7: 1. Backwards and upwards of both bones: 2. Lateral of both bones: 3. Forward of both bones: 4. Forwards of the head of Radius. 5. Backwards of the head of Radius: 6. Subluxation of Radius on Ulna: 7. Luxation of Superior Extremity Ulna.

1. Backwards and Upwards of Both Bones.

Causes. = Falling on the heel of the palm, with the arm in a semiflexed position.

Symptoms. Coronoid Process of the Ulna rests in the lesser Sigmoid fossa: Olecranon excessively prominent: fore arm shortened; flexed: tumour in front from humerus:

Treatment. Patient in a chair: Surgeon stands in front rests one foot on the edge of the chair, and places his knee in the angle of elbow: he steadies the humerus with one hand with the other he grasps the forearm extends and bends it over his knee.

2. Lateral Displacement of Both Bones.

Def. = a Partial dislocation; the radius, or the Ulna being in the middle of the joint.

Prognosis. Reduction usually easy, from laceration of the ligaments:

Symptoms. = Lateral distortment: tension of Brachialis et. Biceps.

Treatment.= Extension; Counter extension; lateral pressure flex the fore arm and arm, place it in a Splint; use antiphlogistics, and guard against anchylosis.

3. Forward of Both Bones.

Symptoms. Usually attended with transverse fracture of the Olecranon Process: Brachialis et Biceps pull up the Radius and Ulna: Forearm is bent back; shortened: tumour in front: depression behind: movable tumour from the action of Triceps, on the fragment; apply the dressing for fracture of the Olecranon.

4. Forward of the Radius.

Causes.= any action producing excessive Pronation:
Symptoms.= Head of radius is displaced, and rests along side of the Olecranon: The Radial side of the arm will be shortened: hence the correspondent margin of the Palm will incline towards the radius: rotation of the hand is lost: Depression where bone should be.
Diagnosis. Easy soon after the accident; but increases in difficulty soon after from swelling.
Treatment.= Extension; Supinate the forearm; press the bone in Coco with the thumb: flex arm: rectang. Splint

5. Backwards of the Radius.

Caused. by any action producing excessive Supination.
Symptoms.= Precisely reverse to the above.
Treatment.= Extension: Pronate the forearm: push with thumb

6. Subluxation of Radius upon Ulna.

Causes. Partial twist of radius on Ulna, as in swinging a child over a gutter by one hand;
Diagnosis. The bicipital protuberance interlocks with the sharp ridge of the Ulna: all voluntary motions are preserved, except rotation: hand fixed between Pronation and Supination.
Treatment.= Extension; and as the twist indicates, use forcible and increased Pronation or Supination.

7. Luxation of Superior Extremity of Ulna.

Causes. Falls on the outer edge of the hand.
Diagnosis. The interosseous and coronary ligaments are excerated: Coronoid process is lodged in the Sigmoid fossa: forearm shortened on the Ulna side: corresponding side of Palm flexed towards Ulna: Rigidity of the forearm.
Treatment.= Extension; Counter Ex: Flexion over the knee.

X. Luxation of the Wrist.

Def.= Displacement of the carpal row from the inferior Extremity of the radius:
Treatment.= Extension: Counter Ex. Lateral pressure: antiphlogistics: look out for anchylosis.

Inferior Extremity of Ulna.

Symptoms. Hand is flexed on the ulnar edge:
Varieties.= 1. Forward: 2. Backward. If the Luxation is forward, there will be a tumour in front, and depression behind, and vica verse.
Treatment. Extension; Counter extension; Firm pressure on the prominence. Easy to reduce, but difficult to maintain in situ: Roller bandage beginning at the fingers, and firmly compressing over the wrist—over this apply an unyielding compress, as a bracelet.

11. Luxation of Carpal Bones.

Entire luxation of any, as of magnum, must if possible be reduced: if not, make an incision at a distance from the bone; subcutaneously divide the ligaments, and slip the bone out of the external wound.

In Partial luxation of Os magnum. Lady will complain that she cannot play the piano without great pain: On examining the wrist nothing will be seen, unless it is flexed, when a slight prominence will appear. This spontaneous luxation is due to preternatural laxity of the ligaments.
Treatment. Requires months. Splint: cold douches: galvanism blisters, will usually relieve the nuisance.

12. Metacarpal Bones.

Luxation of first Metacarpal of thumb. The thumb is thrown into the palm of the hand, and becomes wedged between the other metacarpal bones: it becomes, from this cause, extremely difficult of reduction; and division of the tendons, and ligaments is useless as the locking of the bones is the cause.
Treatment. Clove hitch over a piece of chamois leather to prevent excoriation: Powerful counter extension by the thumbs of an assistant.

13. Phalanges.

Bone of thumb. Difficult to reduce 1. from interlocking of the bones, if thrown over ~~the~~ the metacarpal. 2. Binding down of the bones by the ligaments: 3. Interposition of a flexor tendon with a sesamoid bone.
Treatment. Clove hitch over a piece of wet chamois leather: subcutaneous division of lateral ligaments of one side by a couching instrument: In extension, tilt the thumb across the palm of the hand to unlock the bones. Ferguson pressed against the bone, at the same time pulling backwards.
If the fracture is compound, and cannot be reduced: resect, or saw off one end of the bone: passive motion.

14. Sacrum.

The only possible displacement is forwards: useless to attempt reduction by applying internal force to the Pelvis. But keep up lateral pressure by a transverse pelvic bandage: tie the legs and thighs: In about 3 weeks the patient will recover with a slight deformity.

15. Luxation of the Pelvis.

Def. = Separation at the Symphysis of the Pubis, and Sacro-iliac junction of one side:
Symptoms: Displacement of one half the body: limb shortened: It has never yet been reduced: apply a transverse lateral bandage: tie the thighs: watch the Rectum & Bladder.

17. Luxation of the Femur.

Varieties = 3 displacements Upward: 1. Upwards and backwards on dorsum ilii: 2. Upwards and forwards on the ossa pubis: 3. Directly upwards, between the Spinous Processes of the illium. 3. Displacements downwards. 1. Downwards and backwards in upper ischiatic notch: 2. Downwards and forwards into the foramen ovale: 3. Directly downwards lodging on the tuberosity of the ischium.

1. Upwards and Backwards on dorsum ilii.

causes. The femur was all to be dislocated: if drawn inwards in excessive adduction: or when the bone of the femur is drawn across the other knee: such a position puts the ligamentum teres on the stretch: the head slides to the lip of the acetabulum: the muscles, and ligaments act the part of a lever, and jerk it over the Edge.
Symptoms. Limb inverted, shortened: its toe rests upon the dorsum of the sound foot: Knee is turned in: hip prominent: limb partly flexed: head rotates on the dorsum.
Diagnosis. = Confounded with fracture of neck of the bone: But here the limb is everted: The shortening will disappear on slight Extension: No movable tumour on the dorsum.

confounded also with Coxalgia of long duration, but here the history of the patient will be our guide.

Treatment. = 3 or 4 Indications: 1. Fix the Pelvis: 2. Draw the head of the bone towards its cavity: 3. Impress the muscles into co-operation: 4. Constitutional remedies to relax the muscular System.

Methods. 1. Dr. Nathan Smith's. Flex the leg on the thigh, the thigh on the Pelvis; carry the leg, that is abduct it, over the other then rotate it upwards and outwards on its axis, this renders the muscles on the back of the thigh tense, and they will pull the head of the bone into the acetabulum. This can only be done to children, and weak patients. Care must be taken that the head does not slip into foramen Ovale.

2. Jarvis Adjustor: 3. Bands and compound Pullies. Place a folded sheet under the Perineum of the sound thigh, [Not on the wounded side as Sir Astley Cooper recommends for it crammels the action of the flexor muscles.] fasten the ends of the sheet on the bed post of the sound side: Pass a transeverse Pelvic band just above the seat of lesion, this is to be steadied by assistants, and serves to fix the pelvis: Apply a clove hitch to the inferior third of femur above the femur; or else fasten a "jacktowel" to the same place by means of a wet bandage: Apply the pullies and make Extension in the line of displacement: when the bone yields and is on the edge of the acetabulum, give the word to the assistant, let him immediately unhitch the pullies, at the same instant let the surgeon rotate the knee upward and outwards.

2. Upwards and forwards on to Pubis.

causes. The limb fixed firmly while the body is carried on by momentum; as falling into a hole, whilst in motion.

Symptoms. Toe and limb usually everted; limb shortened: head of the bone under Poupart's ligament.

Treatment. Counter extending band as above: Pelvic band across crista of ilium: Surgeon's hand passing loosely around the luxated limb, to serve as a grasping joint: Apply the extending band, and pullies: whilst the force is exerted, let the surgeon coax the abductor muscles by lifting the leg up and down by means of the femoral bandage: when the head of the bone arrives at the cavity or begins to slip, let the surgeon pass his arm under the thigh and carry it suddenly over the other thigh.

3. Directly upwards between Spinous Processes.

Quite Rare. Vide Medical Examiner 1840. Article by Prof. Müller.

4. Backwards and Downwards on to Ischiatic Notch.

causes. = Force applied during excessive abduction.

Symptoms. The toe of the luxated limb, rests on the ball of the sound foot: Limb is shortened, but not so much as in the luxation on the dorsum ilii.

Treatment. Patient on sound side: lift the limb up with the femoral or surgeons bandage: when the bone begins to slip suddenly pull the thigh out to stimulate the muscles.

5. Forwards and Downwards in Foramen Ovale.

Symptoms = Limb everted; longer than usual:

Treatment. No counter extending band: but two transverse Pelvic, one of which passes under the Perineum of the sound thigh: Let the Surgeon stand on

6. Directly Downwards on the Tuberosity of Ischium.

The limb is longer than natural.

The femur must be drawn upwards and inwards.

Luxation of the Knee.

1. Patella.

Varieties. 1. Outwards: 2. Inwards: 3. On its axis: 4. Upwards: 5. Downwards.

Indication = To counteract the muscular action of the Quadriceps femoris = Rectus femoris: the Vasti: the Cruræus.

1. Outwards. The patella rests on the outer condyle, and unless reduced, it becomes united to it, resulting in permanent anchylosis, with stiffness in walking.
Symptoms. Great Agony: sickness at the stomach: all motion is lost, from the laxity of the Quadriceps femoris.
Treatment. Flex the thigh on the Pelvis; extend the leg on the thigh, and rest it on the Surgeon's Shoulder: then reduce by displacement with the thumb.
3. On it's Axis. The patella is twisted, and stands on its edge. Extremely difficult to reduce. Same position as above: Surgeon pries up one edge, the under, with his thumb, whilst he pushes it in loco with the other: Cover a Key, and use it to pry with.
4. Upwards. The ligament of the patella must be broken across to accomplish this displacement. commence with a roller bandage at the foot, carry it ups to the knee — place the bone in situ, keep it there and paralyse the Quadriceps femoris, by figure of eight turns of the roller. Keep the limb at rest on an inclined plane for 4 or five weeks.
5. Downwards. This will be the result of laceration of the tendon of the Quadriceps femoris: Use the same dressing as above; but be careful of your prognosis, as the union of the lacerated tendon will be weaker.

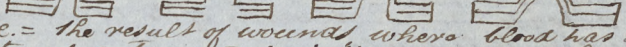
2. Luxation of Head of Tibia.

Varieties = 1. Backwards: 2. Forwards: 3. Outwards; 4. Inwards: 5. Subluxation, or Twist.

Aneurism

Def. = A tumour filled with blood, and communicating directly or indirectly with an artery.

Varieties. = 1. Spontaneous, results from decease of the artery as ossification, softening. 2. Traumatic, = lesion of a healthy artery, as by a wound. 3. Internal. = developed in some large cavity. 4. External. = developed in the extremities. 5. True. = blood contained in one or more coats of an artery, and has a circumscribed tumour, thus:



6. False. = the result of wounds where blood has escaped from a ruptured artery, and is infiltrated into the Cellular tissue. 7. Mixed. = composed of True and False, an artery becomes dilated, as in True Aneurism; it bursts and infiltrates in the Cellular tissue; It is an Aneurism within an Aneurism. 8th Circumscribed. = limits of the tumour easily defined.

9. Diffused. = Large amount of blood, dissecting up tissues by infiltration. 10. Dissecting. = the blood gets between the coats of the artery dissecting them up. 11. Varicose. = Indirect communication of an artery and vein, by means of a tumour between them, thus [illegible]. 12. Aneurismal Varix = Produced by bleeding, when you pierce the vein and the artery beneath; plasma is effused, the artery is glued to the vein, an opening established, and venous and arterial blood are mingled producing the pulse called Aneurismal thrill. 13. Aneurism by Anastomosis. = tumour of congeries of capillary veins and arteries, communicating by anastomosis and held together by cellular tissue. It is also called Erectile tumour, or Nævus.

Number = In Traumatic cases but one. In Spontaneous look out for others in Groin, axilla, hip Etc.

Erisp of England divides Aneurisms into 1. Endogenous = those confined within the coats of vessels 2. Exogenous. = the false, or those without the walls of the blood vessels.

Diagnosis. = When Recent an Aneurismal tumour pulsates, the integument is not discolored; the tumour is more or less fluctuating — Pain due simply to compression of nerves in the vicinity — Pulsation ceases on compression of the artery — Aneurisms may be confounded with any other tumour, which will pulsate if pressing upon an artery. if however you push it aside, or lift it up from the artery, pulsation will cease. Run a cambric needle in the tumour, if it be aneurism, blood globules will ooze.

Prognosis. = External and traumatic easy to heal. Internal very unfavorable.

Progress = Usually slow in its development. As the tumour grows, it becomes apparent to surrounding tissues. Progressive absorption of bones, and other tissues take place by the pressure of the blood. Integument becomes discolored, gives way and death ensues from Hemorrhage.

State of blood. = Liquid in recent cases, but solidifies by the deposition of concentric layers of fibrin.

Termination = 1. Spontaneous Cure; very rare. Artery becomes blocked up sometimes by fibrin. Aneurism of the Abdominal aorta, may obliterate the artery by pressure — Artery sometimes inflames, plasma is effused blocking up the artery. External aneurisms cured by sloughing, very rare.

2. Death from hemorrhage — when the aneurism bursts.

3. Death from Exhaustion. When the aneurism presses upon an important organ, deranging its functions, as aneurism of

Aorta may press upon the stomach
3. Death from direct influence of the tumour on vital organ.
Treatment = 2 Indications 1. To diminish the force of general circulation. 2. To arrest the circulation in the part.
The 1st Indication or that of Valsalva applies only to internal aneurisms = Rest in horizontal position — The least possible sustinence, to be diminished daily — Very little fluid Let him suck ice or a wet rag if thirsty — Digitalis, antimonials, large doses of acitate of lead. with Opium if necessary — Venesection, only in cases of phlegmatic persons at the outset. be careful not to bleed as it diminishes the Plasticity of the blood. Useless to commence this treatment if the patient has tuberculosis or any other vital disease as the severity of the treatment will effectually kill him.
Local Remedies = 1. Leech if painful. 2. Long seton of Dr. Morris, which is to be passed through the integument of the tumour. 3. Ice, astringents, & refrigerants.
Second Method = Compression. Billingham's alternate compression = to diminish circulation slowly. Two tourniquet, each having two pads; one Tourniquet to be placed on the Cardiac side of aneurism, on the artery. The other on the distal side of tumour. Compress one, keep it as long as it can be borne, then Loosen the other and unloose the first, and so alternate. Even shened it fail, it prepares the artery for ligation.

Ligature.

General Principles = In varicose veins, ligate above and below the tumour. In ligating an artery see that the tumour is placed in a position favoring pulsation, so that you may readily find the artery, tie it as near to the tumour as possible, as you may have an anastomosing branch, or the artery may bifurcate.

Hunter's Operation.

The ligature is placed on the Cardiac side of the tumour.
Effect on the tumour = Pulsation will cease — the tumour will shrink and in recent aneurisms will entirely disappear — the limb will become cold as marble — in a few hours it will be as hot as an inflammation. Wrap the limb in cotton when cold — when warm do not apply cold, but simply elevate the limb; no danger from mortification, unless the capillary circulation has become impaired by prior inflammation. Sütter considers Hunter's Operation the best, and would ligate the Primitive Iliac, the External Iliac. ** before he would ligate the Femoral, below the tumour.

Brasdor's Operation.

Def. The ligature is applied on the distal side of the tumour, or between it and the capillaries.
Effects. = Tumour and pulsation greatly increases. The limb as before is first cold, then hot. then of natural heat.
The Cure depends on Arteritis, or Inflammation causing the effusion of Plasma.
This Operation not be performed, except by necessity (e.g groin) where Hunter's is incompatible.

Wardrop's Operation

The ligature is here applied to a collateral branch of the diseased artery, on the capillary side of the tumour.
As in Aneurisom of the Arteria Innominata, ligate either the Carotid, or Subclavian. This diminishes the supply of blood passing through the tumour — the tumour and pulsation diminish.
But in addition to strict antiphlogistic treatment, you must employ the method of Valsalva.

Accidents following these Operations

(a)= After ligating a main artery "Convulsions" will frequently follow. Horizontal position - frictions - water - warm brandy and water - hot injections of ditto - depletion if the face becomes turgid and black.

(b)= Fever. antiphlogistic Treatment.

(c)= Secondary Hemorrhage. If the artery is sound, and blood jets out, religate for you know the old ligature has given away. If blood simply oozes apply the tourniquet, for ½ an hour - cold applications. Hemorrhage occurs about the third day in small vessels, the sixth in larger ones.

(d).= Increase in Size of tumour, with pulsation. This is due to the anastomosing circulation and usually occurs in the first 24 hours. Cold - Elevate limb - acetate of lead - bleed if patient is plethoric. If these methods fail, ligate below the tumour.

(e)= Rupture of Sac - certain death

(f)= Gangrene of the tumour.

(g)= Gangrene of the limb will be the result of the operation; if prior inflammation had impaired the capillary circulation of that limb. It is useless to amputate a limb, where the main artery has been tied, and gangrene ensues; for death has thus far been the result.

(h).= Plethora. Patient will suffer from headache - a variety of pains, which time alone will cure.

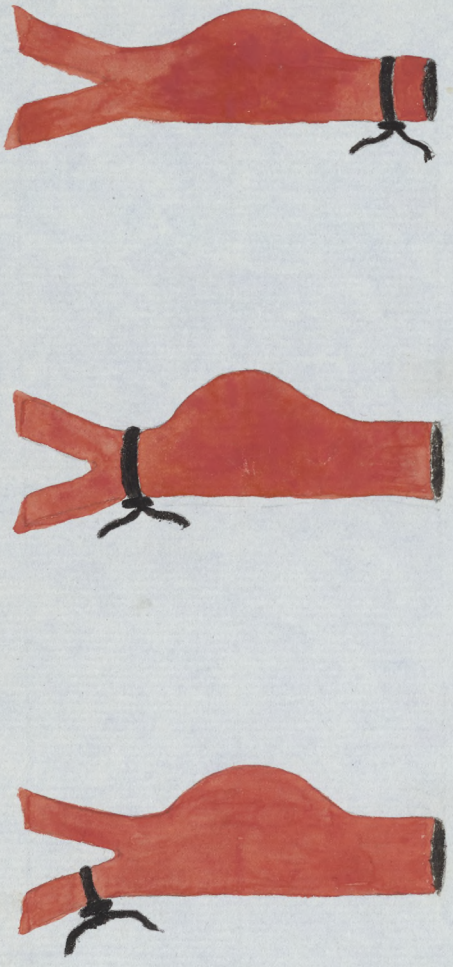
Of other methods for reducing Aneurisms, only "Galvanism and Acupuncture" worth retaining.

In Varicose aneurism, and Aneurismal Varix, usually ligate, above and below the tumour.

In Aneurism by Anastomosis - Strangle the tumour by ligating its base, under two needles which cross each other at right angles - or else strangle by 4 cords -.

Thus if the Aneurismal tumour be on the head it is to be strangled with four knots [illegible] by passing two double ligatures, through the base, at right angles to another.

If the Aneurismal tumour be on the trunk, pass two needles through the tumour, at right angles; and wind a ligature around the base of the tumour, underneath the needles.



XIII. Injuries and diseases of Anus et Rectum.

Imperforate Anus.

Def. = Congenital occlusion of the natural orifice of Rectum

Varieties = (a) Simple Contraction. in which the natural orifice is small from contraction of Sphincter.
(b). Closure by thin membrane of skin or flesh.
(c). Termination of Rectum in a cul-de-sac. this may be complicated with tegumentary or fleshy septum.
(d). Termination of Rectum into other organs, as bladder.
(e). Imperforate by a contraction just above the external Sphincter, like an hour glass contraction.

Symptoms. Patient a child just born, has passed no meconium since its birth; abdomen tumid great agony, with symptoms of colic.

Treat. = depends on form. If the form is (a) Insert a probe, and divide the Sphincter in 4 different directions: As soon as Meconium passes put lint in the wounds, and let it remain.
(b). Septum. When child screams a tumor will be found: Open it by a crucial incision.
(c). In large Septum, fleshy, or Cul-de-sac. dissect up, until you come to a fluctuating tumor, then divide with crucial incision. Seize the end of cul-de-sac, pull the gut down, and stitch it to the margin of the external wound; Amussat invented this; pledget of lint in warm aqua.
(d). A thin Septum; introduce trochar, and leave the cannula, or introduce Gumelastic Canula to be daily enlarged. Trochar must be slightly curved.
(e). If terminates into other organs. As in bladder known by color of urine. wait 3 years, then make an incision and pull down the cul-de-sac.
f. If you cannot reach the cul de sac Establish an artificial anus; and only if parents and Physicians. but Mütter would prefer the death of the child.

History. In 1710 Littray proposed to open the Colon of the left side; this is dangerous from wounding the Peritoneum. 1796 Harrison proposed to reach the gut without wounding the Peritoneum; the descending Colon, whose posterior portion lies in the lumbar regions, and is uncovered by Peritoneum.

Recollect that if when you reach the gut, it moves on respiration it is a small intestine; but the Colon is stationary.

Pruritus.

Def. Itching. Two kinds. a. Infant. b. Adult.

(a) Infant. owing to worms: 1. Scoop them out from the pouch of the rectum. 2nd Inject ½ tumbler of Sett. oil: or Spts. Terebinthinæ.

(b) Adult. Pruritus. On Examining the anus, you will find it pinkish, and covered with white spots. this is a tetter, caused by dispepsia, or Costiveness. Apply to parts argent. nitras in Solid stick; then inject citrine, or tar ointment. Constitutional.

Neuralgia of Anus.

Symptoms = Intense pain at the end of the gut, sometimes intermittent: this is however a Symptom of Fistula: Piles: Pouch, or Sac of Rectum.

Diagnosis: = Examine part carefully: if the gut is sound, and you can introduce finger without increasing pain, it is Neuralgia: Sometimes there is constant Spasm.

Atony of Anus:

Def = Paralysis of External Sphincter.

causes = Found frequently in old People, from want of nervous power: is a serious inconvenience as there are constant fecal discharges: If the individual is 70 or 80 years old: with complete paralysis; palliate the remedy by astringent injections, by a soft pad pressing against the Sphincter: If late, and young, or bent on an Operation: Perform that of Dieffenbach: place position as in Lithotomy; empty rectum: Cut a triangular piece out of the Sphincter, this shortens the Sphincter; Stitch:

Blenorrhagia of Anus:

Def = Constant creamy discharges of mucus, like white of Eggs.

Symptoms = Throbbing: desire to micturate: It is in short the Whites of the female.

causes. = Constitutional, or Local weakness of the part.

Diagnosis: = Examine Rectum, with double bladed Speculum of Charrier: If the inflam. is chronic it is red: covered with cream spots: use injection

Arg. nit. gr X. to Aquae ℥j. by glass syring. 2 or 3 times a day: Diet: small doses of H. sicili: sometimes Leeches: If Constitutional; you will find Rectum pale, flabby: inject simple astringent, as White Oak bark tea: or Sodae boras, twice a day: if these fail use Arg. nit:

Hemorrhage from the Anus:

Causes = From Piles: from giving way of a capillary: etc. hence be guarded in Prognosis:
When this discharge is vicarious, with tendency to congestion of other organs, as in Amenorrhea do not check the discharge.
Arrest it by astringent injections: actual Cautery: use an ivory speculum with fenestra on one side, heat the button to white heat:

Organic Stricture of Anus.

Causes = (a) Inflam. of rectum: (b) Operation for Piles: (c) Hay's Operation for prolapsus ani:
Diagnosis between Organic & Spasmodic: In both, feces pass with difficulty through External orifice; if accompanied with pain it is Spasmodic: In Organic finger cannot enter into anus: You can readily insert finger in Spasmodic:
Operation of Organic: Divide Sphincter crucially: introduce bougies of ivory with earthy matter removed; increase their size daily: There is always a liability of return, hence he must at stated times pass a bougie after convalescence.
Treat. of Spasmodic: = Bougie smeared with Ext. Bellad.

External tumors of the anus.

They are usually erectile and covered with creamy pus: If they are due to Ter. Syphilis they are called verrucae, or condylomata: hence treat constitutionally, by Hyd. bichlorid + Sarsaparilla: cut off the tumors, and apply lint dipt in lime water: wash them with Salt water, and dust over Calomel.
If Schirrous tumor: there will be an accompanying swelling in groin; Examine by microscope and cancer cells will be found.
Treat. as soon as you find it malignant, take it

away early by removing the whole Sphincter: Patient will always be obliged to wear a bad to retain the feces. Prog. unfavor. from return.

Hemorrhoids or Piles

Def. Should not be hemorrhoids as they do not always bleed.

Varieties: = 1. Blind, with no discharge of blood: 2nd Open with hemorrhage: 3rd External. 4th Internal.

Causes: = 1. Predisposing: 2nd Local.

Predisposing = (a) Affection of liver, impeding the Portal circulation, causing plethora in hemorrhoidal veins. (b) Sedentary life, favoring congestion: (c)

Local = (a) Simple inflam. of Rectum: (b) Constipation: (c) Pregnancy: (d) Foreign bodies, as impact. feces.

Symptr. = Heat and throbbing of rectum: feels after fatigue, as if a tumor was there: difficulty in defecation: descent of Sphincter with 2 or 3 tumors, indicate "Blind piles": In "Open pile" there is hemorrhage: tumors like raspberries: passes water more frequently: pain Etc.

Diagnosis: Examine Rectum: tell patient to bear down with all his might over warm water: a mass of raspberry tumors will be exposed. Internal tumors are always covered with mucus membrane. The External are not.

Prognosis: Do not neglect them, as patient may die from anemia, or Constitutional irritation.

Dissection: or Pathology of Piles = 1st Ordinary Pile in its incipiency is nothing but a varicose vein, on pressure it will disappear: 2nd Suddenly taking place, is an extravasation of blood under mucus membrane; making a little hard, purple tumor, called "blood tumor" and rolling under pressure like a Shot: if left alone it will be absorbed, but requires so much time that it is always best to operate. 3rd also Suddenly arising, the result of fatigue = a simple injection of blood, or congestion about rectum and anus: a longitudinal fold or ridge extending from one end to another of Rectum, protrudes from it: 4th In centre an Erectile tumor, surrounded by dilated veins, with deposite of plasma; requires operation, but hazardous to knife from vascularity.

5th. Sarcomatous Pile, very hard and fibrous: usually external: caused by dilated vein with effusion of plasma, and subsequent disappearance of the vein: confounded with Polypus.

Treat: generally considered. (a) Blood clot: cut down upon it: take it out, and apply astring. as Laud + Lead: (b). If due to Congestion: apply cold applications; elevate hips: apply leeches: Oleum ricini: (c) If Internal Piles, erectile: They may mortify, and destroy patient, hence if strangulated, let out blood by leeches, fomentations, when shrivelled then restore them.

Palliative Treatment = (a) Cold pressed linseed oil, a wine glass full every morning with diet:
(b) Ward's Paste [Confectio piperis nigri] internally the size of a nutmeg every evening.
(c). Cold baths: cold douches into rectum, to stimulate the capillaries.

Radical Treat = 4 ways (a) Pull down tumor by double hook, cauterise with nitric acid until it turns white, then wash with an alkaline, and return it. Mütter does not approve of this measure of Huston:
(b) Ecrasseur; Pile is caught in a clamp, strangulated by a screw; cauterized at its neck by the instrument; remove clamp: wash with vinegar, and return it. Mütter has more confidence in this.
(c) Dupuytren, cuts them off; but Mütter considers it dangerous for internal ones in particular.
(d) Physic, strangulated them, by annealed wire drawn by double canular, which was left in the Rectum, until the tumor sloughed away:
(E) Mütter uses double hooked forceps; curved scissors: instrument to draw flat needles with double ligature: eye of needle at it's point: Patient forces down tumor over a tub of warm water; is caught by assistant with forceps; pass double ligature through base of tumor: ligate; cut off tumor above ligature; returns the whole up, and ligature will come away in time: cut off both ends of ligature: To know if there is internal hemorrhage, insert a Catheter, and let it remain.
Cut off External Piles, and apply lint dipt in ice water; rest, to prevent the hemorrhage.

Polypus Rectum

Is usually a fibrous tumor.
Symptn. = Difficulty of defecation: occasional slight discharge of blood: no pain, but a sense of rectum being filled up.
The tumor is pediculated, and always requires an operation:
Operation. After patient has forced it down: then (a) Müller passes a wire over the tumor around the base, and then cuts away as much of the tumor to prevent an extended surface of sloughing. (b) Simply ligate with a noose of thread, and let it remain.

Sac or pouch of Rectum

Def. = 1. Either a dilatation of the natural sacs, or
2. Ulceration of a blood tumor.
Between the longitudinal fibres of the rectum there are pouches; fecal matter lodges in them, dilating them to the size of even a walnut.
Symptn. Patient is miserable; cant have discharges without burning pain; caused by Spasm: discharge of pus; examine rectum with the speculum, and you will see nothing at all: take a bent probe, hook its point in the orifice of the sac, and pull it down gently; when it reaches the anus, you will find a semitransparent membrane through which you can see the probe [If you cannot, it is a fold of mucous membr.] cut it out; or snip out a piece.

Lodgement of Foreign Bodies.

Feces usually as hard as a stone:
Symptn. = Great pain: no discharge: tenesmus:
Treat: Take an elastic long gum Catheter, and insert it between the gut and feces, working it gently until its point is above the mass. Inject a (0) of warm soap water: take away the catheter, and let the patient remain in bed: The water will percolate the mass, & soften it: Keep injecting, and perhaps it may require a whole day, to remove the entire mass.

Schirrus of Rectum:

You can exterpate a cancer of Anus by removing the Sphincter: But not so with cancer of the Rectum: Operations are useless: you can only palliate, and prevent occlusion of gut, from vigorous granulations.

Palliative treat = Suppositories of Opium for the pain: To compress the luxuriant granulations, take a bladder with a long flexible tube attached: oil the bladder, pass it up above the cancer: inflate it, turn the Stop-cock; take away the Catheter, and leave it as long as he can bear it.

Stricture of Rectum:

Varieties = 1st Spasmodic: 2nd Permanent.
Some doubt the existence of Spasmodic stricture but Mutter has seen it.

Symptoms of Spasmodic = Difficulty in defecation, attended with pain for two or three weeks, then he is well for a time, and then is constipated again it is intermittent. There is no indication of any disease by the Speculum, during the interval of normal condition: but on Examination during an attack, you will find a resisting barrier, with obstinate constipation and pain.

Treat. = Remove the Cause, which is constitutional.

Symptoms of Permanent = Constantly more and more costive: feces pass out in tapes, or little pellets: no intermission: will find a barrier located about 1 1/2 - 2 inches above external Sphincter: If it exists to high to be reached, use the Speculum, or larged sized bougee, and you will find a resisting barrier. The opening to this barrier, may be in the centre, or to one side: Having ascertained the existence of a Stricture you must find out the variety of the Septum:

Prognosis: depends on (a) Simple thickening of the mucous membrane: (b) Fleshy septum: (c) Firm hard, Cartilaginous ulcerated mass: or cancerous in this last, you will find pain, shooting down bladder; general cachexia: Examine pus globules:

84 (a) Can be cured entirely (b) only by constant re-application of bougie (c) is hopeless:
Treat: = (a) or Duplicature of Mucus Membrane: Divide the barrier by crucial incisions, with a Sheathed bistoury: Insert an ivory bougee, with earthy matter taken out, so that it may swell by moisture: You must have a crutch on the bougie to prevent it slipping up into the rectum = ⊂⊃
(b) If the Septum is Fleshy: do not make your incisions, but rely upon the influence of the bougie: not by forcible dilatation: but the presence of a foreign body will stimulate the absorbents: Constantly pass ivo bougie larger, and larger: It will require months: but cannot be radically healed, as the patient will be obliged to pass a bougie up from time to time till he dies:
If there is a simple deposite of Plasma with ulcer: take a Speculum, and carefully cauterize the ulcer: inject astringents: opiates: N B = Give a wineglass, every day, of Oak Orchard water from a Natural Spring near Rochester this is almost a Specific, for ulcers of bowels. Inject Rhatany: Tormentilla:
If Cancer: Can only palliate: Use air bougie, or bladder inflated above the stricture, to prevent occlusion of gut: Opiate suppositories:
For Permanent occlusion of Rectum: perform the operation for Artificial anus, of Colon on left lumbar region: as laid down by Harrison:

Diseases of Bladder:

Rupture or Wound of Bladder.

occurs from blows on the pubis: wounds: ulcerations: Symptoms: Trace direction of wound: urinous odor: distillation of urine from the wound: — When there is no external wound: sudden agony from extravasation of urine in Peritoneum: no flow of urine, on introduction of catheter into the bladder:
Treat. of Stab or Rupture = Prognosis is exceedingly unfavorable: Introduce a permanent Catheter: most active antiphlogistics: diminish the secretion of urine by Opium: If rupture the prognosis is most unfavorable, as the bladder is apt to slough:

Acute inflammation of the Mucus Membrane

It results in Ribbing; thickening; Chronic inflammation of the bladder: Sacculated mucus membrane.
Causes = Cold: Excess in Venery: malt liquors: blows:
Symptoms = Constant desire and effort to pass water: heat; weight; throbbing above the pubic bone: inclination to defecate, but this increases the pain: Urine is muddy from pus and mucus.
Treat. Let patient stand up, and bleed him till he faints: put him in a warm bath when he recovers; Then inject into rectum Tinct. Opii: Give mucilaginous, or demulcent draughts to render urine more watery; as watermelon seeds: Give Castor oil: Elevate the hips, to prevent gravitation of blood: Cups over perineum, and pubis: leech the base of bladder per Rectum:
Prognosis = he may get well, or lay the foundation of catarrh of the bladder.

Chronic Inflammation of Mucus Coat:
Catarrhus Vesicae

Symptoms. Irritation at end of penis: Efforts to make water: Urine viscid, and charged with mucus; is streaked with blood; with white lines of Phosphate of lime, and with pus globules:
Causes = Acute Inflam: foreign bodies: adjacent inflam:
Diagnosis = Examine per Rectum for Piles: Sound him: Examine Prostrate per Rectum: Introduce the Sound, and you will feel the sacculated, or ribbike edges: Examine the urine: If the complaint has existed for a long time, it is usually alkaline:
Tests for Urine: Natural; or Acid Urine both turn litmus paper, so this is not to be relied on: But acid urine will under the microscope will give large quantities of Reddish, yellows, Pink crystals of Uric acid; taking this color, with the action on litmus paper, we make out our diagnosis.
This acidity irritates the bladder, and lays the foundation of pus:
Alkaline Urine: will smell alkaline: Tumeric paper will be turned brown:
Oxaluria, contains dumbell crystals of Oxalate of Lime:

usually occurs in Dyspeptic, and gouty diathesis: is rare, and shows greater lesions than in common crystals of oxalate of lime.
Bilious Urine: Reddish like blood: microscope shows Cholesteryn chrystals: can only occur in diseased liver, with vicarious secretion of the kidney.
Specific Gravity determined by the Urinometer, which sinks in Albuminous rises in Glucose urine: Albuminous, when heated, becomes white: nitric acid coagulates the albumen: is an accompaniment of dropsy, and Bright's disease of kidney.
Deposites of Sand or Sabulus matter: Is the simplest of all diseases of the bladder; but result in stone if neglected: you collect it by percollating urine through blotting paper, and testing its character.
After every Effort at Defecation, a white, cream like discharge in the urine: It may be Spermatorrhoea, then there will be Spermatozoa in it: It is usually however mucus, and has the characteristic mucus globule: Urine muddy on deposition:
Treatments of above diseases: (a) If Acid: use preparations of Soda, or Liq. Potassae, in combination with a diuretic as Erigeron Philadelphicum, a tumbler full 3 or 4 times a day: Pareira brava: uva ursi: Balsam copaibae when he can bear it: Change the diuretic every few days: thus. Soda, or Liq. Potass. night, and morning: Diuretic during the day: Balsam Copaibae gtt. XX after dinner, or each meal: a Suppository of Butter of Cocoa + Opii gr. j. every night on going to bed: Counter irritations must not contain Cantharides: Seaton: issues: Granville's lotion: apply the irritant to the seat of pain: to Perineum: to abdomen, or back to suit the pain: Dr. La Roche has written on this subject:
(b) If Alkaline: use Liq. Nitromuriatic Acid: freely diluted in diuretics, treat as above with the difference of an acid: If the mucus is

viscid, inject into bladder, by a double silver Catheter, through the upper tube, simple warm water, do this every day or two, to wash it out thoroughly: Inject in the same way Nit. Argent. gr. 1/4 to the ℥i increase the strength, until an impression is made: this is to be resorted to, only when other remedies fail: ℞ Do not inject anything in acute Inflam.

(c): If Oxaluria: It depends on some specific cause as dyspepsia: gout: use the Specific remedies:

(d): If Sabulous matter: Use the same treatment as in acid or alkaline Urine, as the case may be:

(e) If Pus or Purulent Urine: Inject Arg. nitras gr. 1/4 to the ℥i of water:

Mütter recommends "Gross on Diseases of Bladder and Urinary diseases".

Irritable Bladder:

Is usually a Symptom of another disease, and is rarely idiopathic:

Symptoms = Patient is frequently obliged to urinate; especially when walking, after eating; or after drinking a glass of wine: horizontal position favors the retention of Urine, hence he rarely has to get up at night.

Causes = (a) Acid or alkaline Urine: (b) Stricture: (c) Gonorrhoea: (d) Piles: (e) Abscess, or Stricture of rectum: (f) Calculus: Catarrhus vesicae: Disordered Stomach or liver: teething in children, hence lance the Gums: Hysterical affections of boarding school girls: weak Spine: Partial paralysis of abdominal muscles, causing the viscera to press on the bladder:

Treat. = To remove the cause:

Spasm of the Bladder:

Symptr. Frequent inclinations to urinate: usually depends on other diseases: confined usually to the neck of the Bladder:

History = Patient perfectly well for several days, but if he takes cold, or rides on horse back, takes a glass of wine, he has pain; retention of Urine, which oozes out in drops. Cure the Cause:

Paralysis of the Bladder:

Causes = (a) Inflammation: Then there will be, a constant desire to pass water; burning sensation; constant pain of the bladder; this is a sure sign: If he passes urine, it comes out in drops, or twisted stream: (b). Blow upon the Pubis or Belly: He cannot pass his water, without a Catheter; this is the result of nervous shock: Some pain, but not the pain of Inflam. (c): Distention: Persons of Sedentary habits, emptying their bladders only partially: the urine collects in the basford, and results in paralysis: The Patient is first obliged to make an effort to pass his urine; it does not come out in an arch: drains away and dribbles after the stream has ceased to flow: Old people are liable to it: (d) Concussion; Compression of Brain; Etc:

Treatment: (a) Inflammation; Yields to Steady purgation purge freely at the first visit, afterwards use Oil: Use demulcents, Opium as in Cystitis: when convalescence occurs, gradually discontinue the purges: (b) Blow: Requires time for recovery, several months generally: Draw off the urine twice a day, and not oftener, because the bladder will become so contracted, that when he recovers, it will not contain but little Urine: Give Strychnia: Arnica injections also per os: Galvanism; counter irritation:

Retention of Urine:

Def. = Urine cannot pass from paralysis of the expelling muscles; Stricture at the neck. Retention is not suppression, this results from disease Kidneys.

Causes = Paralysis of bladder: Inflammation: Spasm of neck of bladder from cold, excess in wine, Cantharides Etc: Dentition: Hysteria: Mechanical causes, as Lodgement of Stone in the neck: Enlargement of prostrate: permanent Stricture: collection of blood in bladder: Displacement of womb, compressing the neck: most fearful cause equals the laceration of Urethra from a blow on the perineum: Etc.

Diag. = ask Patient (1) Did it come on suddenly (2) slowly or gradually. (3) If the attack has been intermittent. If (1) Suddenly it depends on Paralysis, Spasm, inflam: (2) If Gradually = an organic disease; a blow; concussion, Prostrate gland. (3) Intermittent = Affection of Urine; Neuralgia of bladder.

General Phenomena = (a) Unable to pass his urine in a full stream: may be confounded with Incontinence or dropsey from the dribbling: (b) Examine Pubis you will find an oval tumor fluctuating from the distended bladder, it is not therefor incontenence. (c). Uneasiness, intense agony of enlarged Prostrate: (d). Fever in every case, lasting two or three days. (e). On 3rd or 4th day, from absorption of urine, the breath and Perspiration smell of urine; accompanied with an indescribable appearance of face.

Death; depends on two causes (1). = Absorption of Urea, causing coma. (2). Constitutional Prostration.

Treat: = Depends on the Cause. If (a) Paralysis, draw off the water, by Catheter, but not all; as the same result will ensue as in Abdominal Dropsy, in which if you suddenly take off the compression of the fluid from the capillaries; blood will rush and inflammation set in. Hence empty the bladder slowly, and use compresses; use the remedies for Paralysis, and instruct the Patient to pass the catheter twice a day.

If (b) Inflammation: Open the veins of both arms, whilst the patient is standing, bleed until he faints: give anal injections: fomentations: Opium: Warm bath: Dont put the Catheter into the bladder at first as this will irritate: But if the Stricture, or Retention cannot be overcome; Etherise him, and insert the largest Catheter.

(c). Spasm of Neck: When you pass the Catheter down to the seat of Stricture, press gently on the Spasm for a long time, it will yield in time.

(d). Dentition: Lance gums: purge: warm bath: Catheter:

(e). Hysteria: They will send for you repeatedly, to gratify their libidinous propensities: You must reason with them: find whether they have urinated by examining the pubes: they will deny having.

(f). Mecanichal Obstructions: (1). Coagulated Blood, caused by a blow, or hemiturnia; history will inform us; blood will once have trickled: no fluctuating tumour: Introduce double catheter, and pass a stream of warm water to dissolve the clot; if the Clot is hardened, and will not yield, perform the Lateral Operation.

(2). Enlarged Prostrate: caused by chronic Inflammation, or hypertrophy: This is the most fatal of all the Causes of Retention: as it occludes the neck of the bladder (a) By Pressure: (b) The third lobe may be enlarged into a pedunculated tumor, which acts as a valve. * See next Page.

Treat.=(a) Examine per rectum, and you will detect the enlargement of the Prostrate: (b) Find out which lobe it is, do this by an Exploring sound; if this goes as far as the neck, and then meets a barrier it is the 3rd lobe; if introduced with difficulty it is Prostatic enlargement. Try, and insert Gum Catheters tipt with Silver, bevelled to suit the side of enlargement. If you cannot, then introduce a flexible stiletto into the Catheter, to shorten, or lengthen the curve of the Catheter, by pulling, or pushing it in. If this is unpassable, the patient is in articulo mortis; then nothing remains but Paracentesis Vesicae, per Rectum, Pubes, aut Perineum. The best Operation = that of Dr. Brander, outside of Perineum, in which a simple, flat trochar, is carried through the Symphisis Pubis, into the anterior parieties of the bladder. leave the Canula until the patient is relieved.

(3). Permanent Stricture:

History = Has lasted for years: agony from Retention: urinated by dribbling, now cannot obtain but a few drops by violent means: fluctuating tumor above the pubis; abdomen tense and painful: There is more or less spasm, and pain from Inflammation: hence, find out, whether it is mechanichal, or due to spasm, or Inflammation.

If it depends on Inflammation; put him in a warm bath bleed him; evacuant injections; then explore the Urethra carefully by the Largest Gum Elastic Catheter; ascertain the Seat of Stricture: Then commence a series of introductions of catheters, smaller and

smaller, until one is passed into the bladder, if you succeed in this, he is safe. If you cannot introduce it, then use Amussat's sound, which has a stillet that directs the Silver Catheter into the bladder, Then use the stillet as a director, over which you a pass a Gum Elastic Catheter; withdraw the sound and leave the Catheter.

Suppose there is no opening in the Stricture. Then pass the Silver Catheter of Dr. Harris down to the seat of stricture, and press a stillet through the Stricture and try to pass the catheter through the made orifice.

If you cant succeed: (a) Tap the bladder: (b) Cut down to seat of Stricture; introduce a grooved staff, and cut down for the staff per perineum, and divide the stricture, introduce a catheter must remain, until the External wound heals.

If you do not relieve him, the bladder or the urethra may rupture

(4). Rupture of Urethra:

Diagnosis = Caused by a blow; there is pain: arrest of urine; a tumor in Perineum, red and sensitive from infiltration of urine, kept from being diffused by the union between the Superficial Perineal fascia, with the Deep Perineal Fascia.

Treat. = Introduce the Catheter, if you can. it is a very difficult undertaking, he may thus be cured. If unsuccessful, cut down to the seat of rupture per Perineum, and find the unnatural orifice, and you will be able by manoeuvering to pass a catheter per penem, into the bladder. If the orifice is not to be found cut into the bladder, and pass a Catheter from the bladder into the urethra, and out at the penis.

This is the only case, in which you are authorized to perform Paracentesis vesicae per Perineum.

(5). Lodgement of Calculi in neck: If the stone be small, push it back into bladder, and crush it. If unsuccessful cut upon the grip through the Perineum, by introducing finger into the Rectum and pulling the neck down.

*. In Enlarged Prostrate; before resorting to the Operation of tapping: perforate the gland

by the Stillette of Leroy d'Etiole, and pass in the catheter. In the Pediculated tumor from the Enlargement of the 3rd lobe, which falls within, you must manoeuvre, the catheter by shortening and lengthening the curve by a stillette, so as to get it over the tumour, not through it; you can aid the operation by pushing up the point of the Catheter by introducing the finger into the Rectum.

(6). Abscess in Perineum: which presses up the bas fond, and occludes the neck. The duty of the surgeon, is never to allow a tumor to grow to that size. Lay open abscess, and catheterize.

Remedies after relief in certain rare diseases of this kind:

(a). Quiniae sulph. in intermittent attacks, or Spasm.

(b). L'Allemand's Porte-caustique, in irritable neck.

(c). Affusion of Cold water in relaxed habits.

(d). Strychniae sulph. gr. 1/4 - 1/2 to aquae ℥j, inject 3 times a day, for paralysis of the muscles.

(E). Remedy the diseased condition of Urine.

(f). Large doses of Opium, and perfect quiet, when the usual means for relief fail.

Incontinence of Urine:

Def. = Inability to retain one's urine.

Age most liable = Early life, and advanced age.

Causes = Diseased Urine: Irritability: Habit of passing water every hour: Paralysis of Sphincter Vesicae: Children, who urinate their beds.

Treat. (a). Old man: you cannot cure him; but simply palliate by a gum elastic bag, into which the penis is inserted, to collect the dribbling.

(b). Habit of Constant Urination: Break the habit by assistance of Opium, which lessens the Secretion; Opii gr j - ij every day: Opium Suppository at night: distend the bladder three or four times a day by injecting warm water: the Prognosis is favorable, cured in 6 - 8 weeks.

(c). Child wets its bed: This lays the foundation of irritable bladder: See that the child urinates before retiring: at midnight wake him up to urinate; he generally urinates when lying on his back, from gravitation on neck

of bladder, hence let him lie on his face or side which you can effect by a blister on the back. cold douche on back: tonics if necessary.

Existence of Entozoa in Bladder.

Varieties = 1st Spiroptera: 2nd Dactylia. The Symptoms are the same as in stone in Bladder. Matter discharged them with the sound: Turpentine.

Tumours in the Cavity of Bladder.

Varieties = 1. Polypus, or pediculated tumor: 2. The varieties covered with fungous tumors like Venereal warts.

Symptoms = Those of Irritability and Stone.

Treat. If you cannot find a stone, but light upon a tumor producing no click: if at the neck, it will be difficult to withdraw the Catheter: The French Surgeons say if movable crush it, the hemorrhage will be trifling from a lacerated wound. Others propose the operation for Lithotomy, but it has not yet been done.

Stricture of Urethra.

Def. = Diminution of the calibre of the canal. 1. by Permanent or Organic thickening. 2nd 2. Spasmodic 3rd Mixed = Organic & Spasm. The most common = Permanent Stricture. Seat. of Spasmodic is situated low down, near the muscles of Guthrie and Wilson. of Permanent, is any where in Urethra, but usually is about 5-6 inches from the Glans.

Number of Strictures = In Spasmodic One: in Permanent from One to a dozen:

Form of Stricture. = (a) Thread like, most common, and resembles the tying of a thread around causing a duplicature: (b) Thickening extending from 1/4 inch - 1 inch.

Causes = (a) Permanent resulting from Lesion, as laceration of Urethra, more difficult to cure from cicatrix. (b). Permanent from inflam. as Gonorrhoea; Abscess; impure connection with catamenial women; heroic treatment of Gonorrhoea. more easy to cure, for the absorption of plasma is easier than the stretching of old cicatrices.

Phenomena = 1. Local 2. Constitutional.
Local = Difficulty in urinating: irritation at the end of penis: Throbbing in Perineum: after urinating, about a teaspoonful dribbles away in the pants; white discharge like Gleet, hence always sound, to make out a clear diagnosis.
Constitutional = Let the stricture be neglected and there will be a constant desire to urinate; the urine becomes bloody, purulent, with mucus: gets up at night: a Chill followed by a fever every other day like an ague. If it is still further neglected, the nervous system becomes affected: peevish, morose: The Ureters become dilated, the kidneys hollowed out, and absorbed, and patient dies a horrible death.
Prognosis = If the case is recent, health good, and can pass a catheter, the patient can be cured. If the stricture is fleshy; bladder contracted and diseased, he may die from the mere introduction of the Catheter. He will always be obliged to pass catheter once in a while. He must be attended to immediately as the stricture will frequently grow quickly.
Treat. Dont examine him, if from a long journey, until days have elapsed: purge; warm bath; then introduce the Catheter.
The immediate treatment in Spasm, is to get rid of the Spasm: then examined by a graduated ℈ Elastic bougie, tipt with wax, to be warmed before insertion, so as to procure a mould of the stricture, and find where the opening is.
Try now and overcome the stricture, by dilatation of Urethra with bougies. Mütter always uses a metal one, conical, and buttoned to obviate a false passage. Mütter says other catheters are liable to be broken. Insert at first a small one, if you can pass it the patient is safe. You can tell whether the instrument has passed; because it will remain stationary. if it has not, there will be a resiliency, and it will come out. Let the bougie remain at first a minute, then a quarter of an hour &c. Patient must pass one, at least once a month.

Modus Operandi = The Bougie acts, by exciting irritation, and causing the Stricture to be absorbed; that is the absorption of Plasma, between the mucus and other coats. Recollect that Absorption, not dilatation is the Radical cure.

(b.) If no bougie will pass: carry a metallic sound down, and keep it in firm contact with the stricture, as long as patient will bear it; repeat it: This stimulates the absorbents. This belongs to Guthrie.

(c) If the Stricture is Callous: of long duration; if bougies fail: Then the Caustic bougie used to be employed, to slough out the stricture: it was kept in situ 15 seconds, then patient was desired to micturate; if unable sut. oil was injected to allay the irritability from the Caustic. The Caustic was applied by a wax bougie, or canula with stillette. Mutter does not recommend this Caustic, but prefers internal division, with a double edged knife in a silver canula, with a wire for a director; as soon as division is accomplished, insert a Silver Catheter into bladder, let it remain a few days, then insert larger and larger bougies. Stafford's Bistoury is celebrated in London; but Dr. Dodds has the advantage of making use of the canula, as a Catheter after the knife is withdrawed.

Symmes's Operation = Dividing the Stricture from without by carrying a common Staff for Lithotomy, through and through the stricture; cut down to staff and divide the stricture: Mütter says this is absurd, for if you can pass a staff in, then you can dilate without cutting. Sound of Amussat is excellent, because you can pass a bougie, over it, by screwing on the director.

To Sum up. Try first Conical metallic Sound: 2. Guthrie's, by pressure. 3. Cut internally: only two cases in which the External division by Simmes is allowable (a) = Fistula in Perineo: (b) Lacerated Urethra: Next Amussat.

Gonorrhoea

Def. = Every discharge of pus from Urethra, except from that of a Larvated chancre.

Causes = Connection during menstruation; acrid discharges: Leucorrhoea: Ulcer in Vagina: hence be guarded what you say about the cause.

Varieties = (a) Ordinary Gonorrhoea, with discharge of pus: (b) Dry Clap = Inflammation gone beyond the secreting point, hence as the inflammation subsides, the discharge commences.

Stages = 1. Initiative 2. Inflam. 3. Suppuration:

Period of Incubation varies from 2 hs — 3 weeks.

(1). Initiative symptoms = Itching at the end of the penis: frequent inclination to micturate: urine scalds: a creamy drop at the orifice:

(2.) Swelling of the organs: Greenish, reddish pus: chordee at night.

(3). Suppuration = Heat; or creamy discharge with a relief of acute symptoms:

Extent of Inflammatory action = Hunter says only one half inch and a half from orifice; Mütter says, even up to neck of the bladder.

Is there any connection with Syphilis? Carmichael says: "yes." Mütter attributes those cases to Larvated (or concealed) chancre.

What is the Ground that Gonorh. is not the same as Syph. Inoculate with Gonorrhoeal matter and there is no chancre, as in Syphilitic matter.

Treatment = 1. Stage. Some recommend the abortive treatment, by establishing a counterirritation, by arg. nitras gr. xx to Aquae ℥j: but this will cause dry Clap, and Stricture.

Mütter resorts to Arg. nitras gr. j to aquae ℥j: inject a teaspoonful every 4 hours. for 48 hs. at expiration of that time there will probably be a cure. Pulv. Cubebae ℈ij/2 three times a day, if this does not cure, and discharge comes on, increase dose to ℈j: if this does not cure in 48 hs; Purge, but not with Salines.

2. Stage: If there is inflammatory action; Go to bed: Leech perineum: cold water to penis: Purge: Sol. Spts. nitro: Cubebs: Balsam Copaib:

[℞ = Ol. Cubebae ℥ij + Ol. Copaibae ℥ij + Ol. Tere-

98 binthinae Zij + Opii gr. IV + Carb. magnes. q.s. ut fiant in pilulae. No. LX ter die].

When the inflammation subsides, inject Ferri prot iodide gr j to Zi: Zinci Sulph: Plumb. acet: Cupri sulph: dont use Chloroform, as recommended.

Prognosis: May require months to cure.

3. Stage or Gleet: is Chronic; commence by passing a simple bougie up urethra, this alone may cure: if this fails, cauterize with L'Allemands p. caustique.

Pinhead Gleet: so called from squeezing a globule of pus in morning; it is not infectious, let it alone, you cannot cure it.

Complications: = (a) Chordee: Put feet in cold water before going to bed, and sponge the parts: Cumulinbe gr. X: Opiate Suppository: Camphor + Opium at last, not at first as it disturbs the system: If the Chordee is neglected, it will deform the Penis from a deposition of plasma:

(b). Irritable Bladder, use back remedies. P. 87.

(c). Hemorrhage from Urethra: Apply cold: elevate the hips: Pressure in perineum with a cork until the flow is arrested: Turpentine.

(d). Abscess of Penis, from inflammation of mucus follicles; let out the matter at once.

(E). Bubo: use anti-phlogistics;

(f). Balanitis = Inflammation of Glans Penis: cured by Lotions of Zinci: Arg. nit: Sodae Chlorid: Lint interposed between the Prepuce and gland.

(g). Posthitis: = Inflammation of Prepuce: treated as above: may lay the foundation of Phymosis, and Paraphymosis: In Phymosis inject astringents: In Paraphymosis, place the gland in ice water, squeeze out the blood, and bring back Prepuce.

(h.) Hernia humoralis: Orchitis: You must bring back the discharge, by introducing a bougie smeared with Mercurial Ung: anti-phlogistics: Suspension: Leeches.

(i). Venerial Warts: = crops of Strawberries: cut them off, and cauterize; they are the result of neglected Balanitis.

(5). Rheumatism: Cured by bringing back the discharge, and using appropriate remedies.

☞ Change the remedies every two or three days, if unsuccessful, this is the grand secret.

Syphilis

Def. = That form of specific disease, which involves a specific ulcer, and specific phenomenon.
Derivation = Συ φιλέω (mutual love).

History = 1. Was Syphilis known to the ancients? 2. Was it imported from America to Europe? 3. If not imported thus when and where did it originate?
1. There is no systematic account of Syphilis until the 15th century, when it prevailed as an epidemic at Naples.
2. Nobody knows its origin.

Period of Incubation = The period of time elapsing between contamination and development of the disease. Some say this occurs in from 1—10 days. Mütter, with Ricord, fixes no stated time; can have it in 6 weeks.

Question of a Special Virus.— Broussais, and his school deny the existence of a specific virus, and assert that it originates from a simple Ulcer, modified by the health of the individual. This doctrine is however, disproved by inoculation, which always produces a specific disease, and ulcer.

Does Gonorrheal matter produce Primary Sympt. of Syphilis? Some contend that Gonorrhœa and Syphilis are one and the same disease; that Gonorh. produces chancre, et vice versâ, proved by a woman who will give Gonorh. to some, and Syphilis to others. But Mütter says the woman must have both Gonorh. and Syphilis to contaminate with both disease. And when an infected man gives both diseases it is due to Gonorrhœa and a Larvated Chancre.

Classification of Symptoms: Mütter adopts that of Ricord which embraces five Phenomena.
1. Primitive. = Chancre, and Condylomata.
2. Consecutive. = Bubo, and Remote Ulcers.
3. Secondary. = Disease of Skin, and Mucus membrane.
4. Tertiary. = Diseases of the bones.
5. Pseudo Syphilitic = Disease not Venerial, but resembling.

John Hunter made but 2 Groups.
1. Primary. = Chancre; Condylomata; and Bubo.
2. Secondary. = Disease of Mucus Membrane, and Bones.
Can Syphilis be communicated to Animals? By recent Experiments it is proved conclusively by inoculation.
Contagion of Syphilis. It was supposed that the Primary was alone Contagious; but Mütter knows that both Primary and Secondary are communicable. Moreover, an impure connection is not necessary to communicate the disease, as a man may have a Chancre from water closet; infected pants.
Theory of Prophylaxis: Some contend that one Syphilis protects the system; and advocate Syphilization; like the Inoculation in Small Pox. But it is not a perfect guarantee, as Mütter has seen one patient have several different Chancres. They also contend that the Virus of another man is the best remedy for Chancre; and also will put a stop to Cancers, in the same way.

Primary Syphilis

Chancre.

Def. = An ulcer dependant on a specific cause, and originating on any soft tissue; such as the tongue, lips, tonsils Etc.
Mode of Development: - 1. Pustule. 2. Ulceration 3. Abrasion
(a). The Pustular, or Follicular Chancre = a little white pimple, containing a pellucid fluid; it attacks the hair follicles, and penetrates deeply.
(b). May commence as a series of follicles, which running into one another, ulcerate and produce an open ulcer.
(c). Abrasion, usually ulcerates with abscess.
Stages of Chancre. = 3. 1. Period of Incubation, or opening of the ulcer. 2. Granulation and Cicatrization; or from opening of ulcer to its cicatrization. 3. From Cicatrization until it heals.
Inoculable Properties: In the first period it is simply a local disease; in the first 5 days and before you have pus, you cannot inoculate

with it. In the Second period, when from the bursting of a pimple, an ulcer is formed: the pus is contagious, and may continue so from one day, to many years, but usually lasts only one or two months. In the Third or Healing stage, the Virus loses its inoculability.

Division = 1. External
2. Internal, Larvated, or concealed.
1. Follicular. (a)
2. Indurated. (b)
3. Phagedenic. (c)
4. Furunculus. (d)

1. Follicular = The Chancre commences as a simple white pimple, with a pelucid fluid; or follicular around a hair bulb, or in the bulb, which will penetrate more deeply, and require deeper cauterization. When the pimple bursts into an ulcer, the latter is reddish in base; the edges are slightly elevated; secretes laudable pus.

2. If the Pimple, or Abscess or Abrasion, ~~or~~ opens into an ulcer, indurated base, feeling to the finger like a lump of cartilage, it is called an Indurated or Hunterian Chancre. This is not a Specific phenomenon but depends upon the state of the constitution, with the effusion of Plasma. This chancre then possesses an indurated base; the ulcer covered by a greyish, tenacious substance, like brown paper.

3. Phagedenic: If the Pustule, Abscess, or Abrasion occurs in an unhealthy person; the ulcer becomes highly inflammatory; phagedenic, or Erysipelatous inflammation, as some term it, intervenes: the ulcer assumes a dusty, red color from the deep inflammation, followed by rapid degeneration, and ulceration, which may Sphacelate the whole organ in 24 hs. This is called the Black Phagaedena, and is Sthenic in its character.

(a) White Phagedena, from the debilitated tissues, is most to be dreaded. It occurs in weak, vitiated habits, such as Strumous, and Phthisical or in convalescence from any continued fever.

4. Furunculus Chancre: commences as a pimple, spreads superficially, and sphaculates superficially, eating the integument like lupus excedens.

Diagnosis: There are 4 ulcers, with which simple chancre is confounded 1. Psoriasis. 2. Herpes preputialis. 3. Simple Ulcer. 4. Abrasion.

1. Psoriasis, looks like fissures, or clefts, distilling an acrid pus, with itching.

2. Herpes, is cured by purges, application of Zinc washes; it itches, and distils acrid fluid.

3. Simple Ulcer, can alone be tested by inoculation in the adjacent thigh, which will reproduce a similar ulcer if venereal; if not, will dry up.

Treatment. Each variety of Chancre requires a different treatment.

1. If a Simple Pimple or a Follicular Chancre. Rigid diet – purge with a brisk Cathartic of any kind. Apply the Arg. nit. until the sore is reduced to a saponaceous consistency: then apply a simple astringent wash as Vinum Aromatic. Tannin &c. Give no Mercurial treatment, and apply no ointment.

2. If the patient has a fever, and the chancre is red and inflamed; do not apply the Argent. until the fever and inflammation are driven away by bleeding in the arm; cool lotions &c. or else Phagedena may ensue.

3. In the Indurated or Hunterian Chancre, which lasts for several weeks and days. First employ diet, cold lotions to the part, bleeding, rest. If you have tried these antiphlogistic remedies for 10 days, without curing the induration; then and only then give Hydrargyrum, as half a grain

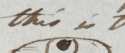
of the Protiodide of Mercury; morning and evening, until the breath is affected, then stop; and if the ulcer still refuses to heal, give Potass. iodid during the interval. When the breath becomes natural and the ulcer is not healed, recommence with Mercury. Watch the Heart, during the administration of Mercury and if it tumbles about, flutters and is irregular; if he says that he has fainted lately; stop the Mercury at once, or you will kill him.
Give the Mercury as long after the ulcer is cured as it required days to heal it.
Local Treat. of Indurated Chancre = Apply pure Nitric acid with a pencil. Then you may soothe the part with a little sweet oil, and apply lint dipt in some Aromatic Wine. Use no grease or ointment of any kind. Some snip out the ulcer.
4. In Phagedena occuring in strong habits, or the Black Phagedena. Do not give Mercury. Stop the slough by bleeding in the arm: rigid antiphlogistics. Dressing of Tannin and water.
5. In White Phagedena, or that occurring in cachectic habits. Give patients tonics; stimulate from the beginning: Apply diluted Nitric Acid.
Note = Chancre in the Urethra, is cauterized by L'Allemands porte-caustique; then inject Sweet Oil; and use astringents injections.

Paracusis

Diagnosis: 1. Examine the tympanum with the two bladed Speculum, to see if it is due to foreign bodies: remembering when you use the Speculum, not to introduce it into the bony meatus as of course you cannot dilate the instrument: 2nd Insert a Stethoscopal tube in the ear of patient, apply your ear to the other end, and request the patient to hold nose and will inflate the mouth with air. if the Eustachian tube is clear then you will plainly hear a crepitus: 3rd Introduce a canula into the Eustachian tube, and allow a current of air to pass into to see whether it is only mucus:

Treat: Blister to nape, back of ear: Ung. Arsenici et Hydriod:

Ectropium: [113.]

Def. = Eversion of Eyelids: to be cured by plastic operation: 1st Cut out a fold of conjunctiva longitudinally: 2nd The only objection to this is that a convex fold is left in the lid thus  : 3rd Reverdin method or sliding of flap, or Elsenmeut de Cambeau = to the diagram   :

Cataphine Test Page 123 : 125:

It is frequently difficult to say whether dimness of vision depends on Cataract or Amaurosis: this is the test: Dilate the pupil with Belladonna: Then hold a lighted candle before the eye: if it is sound in every respect there will be 3 images: 2 Erect. 1 inverted: The two erect are reflections from the cornea, and anterior surface of crystalline. Lens: The one inverted is a reflection from the posterior layer of crystalline:

Now if there is opacity of the crystalline, or its capsule there will be an absence of one or more images: the inverted always, and sometimes one upright image: Hence this is a diagnosis between Cataract and Amaurosis: In the former absence of one or more images: In the latter presence of all the images. There is no test comparable to this:

Plastic Surgery:

Def. That branch of surgery that restores lost parts:

History: Originated in India by Brahmins; introduced in 15th Century into Italy by Tallicotius:
~~The Brahmins take their~~

3 Methods now in use. 1st Indian, in which the skin is taken from adjacent parts: 2nd Italian from distant parts: 3rd French par Glissement de ~~la~~ Lambeau; or sliding flaps Indian the best.

General rules: 1st Must have a large flap, to allow for subsequent contraction: 2nd Never let a stitch bind or be drawn too tight: 3rd Never let the twist of flap to be so tight as to Strangulate 4th Never bring flap in situ until all hemorrhage ceases

[illegible] and cer[illegible]

[illegible]

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